

THE COTTON INDUSTRY OF INDIA



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OF MASTER COTTON SPINNERS'
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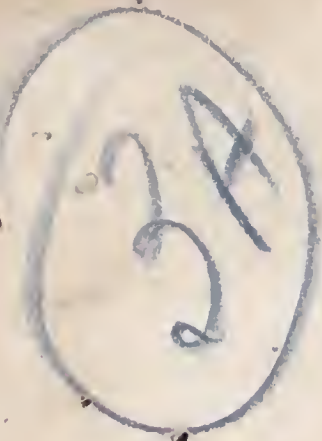
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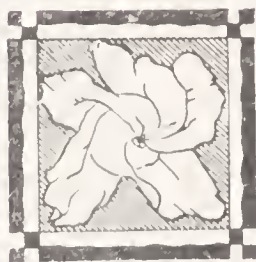
THE
COTTON INDUSTRY
of
INDIA

BEING THE
REPORT of the JOURNEY
TO INDIA

BY

ARNO S. PEARSE

General Secretary of the International Federation
of Master Cotton Spinners' and Manufacturers'
Associations, Manchester, England



Jv
370

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Table of Coinage, Weights and Measures

1 Pic	=	0·093d.
1 Pice	=	3 pies = 0·281d.
1 Anna	=	12 pies = 1·125d.
1 Rupee	=	16 annas = 1s. 6d.
1 Lakh	=	100,000 rupees = £7,500
1 Crore	=	100 lakhs = £750,000

CURRENT WEIGHTS IN THE DIFFERENT COTTON-GROWING DISTRICTS

The weights adopted in Government transactions and by the railway companies are as follows :—

1 tola	=	180 grains	=	11·66 grammes
1 chittak (5 tolas)	=	900 grains	=	58·32 grammes
1 seer (16 chittaks)	=	$2\frac{2}{3}$ lbs.	=	933·10 grammes
1 maund (40 seers)	=	$82\frac{2}{7}$ lbs.	=	37·32 kgs.

KHANDESH

80 Tolas	=	1 Seer
40 Seers	=	1 Maund = $82\frac{2}{7}$ lbs.
3 Maunds	=	1 Pulla = 246·91 lbs.
1 lb.	=	38·88 Tolas. 1 Seer = $2\frac{2}{5}$ lbs.
1 Bombay Candy	=	784 lbs.

BERAR

28 lbs.	=	1 Maund
10 Maunds	=	1 Boja

CENTRAL PROVINCES

80 Tolas	=	1 Seer
----------	---	--------

Pulgaon and Wardha

11 Seers	=	1 Maund = $22\frac{9}{16}$ lbs.
15 Maunds	=	1 Boja = $12\frac{1}{8}$ Quarters

Nagpur

12 Seers	=	1 Maund
14 Maunds	=	1 Boja

BARSI AND NAGAR

80 Tolas	=	1 Seer
40 Seers	=	1 Maund
3 Maunds	=	1 Pulla

BARSI (NIZAM'S DOMINIONS)

80 Tolas	=	1 Seer
12 Seers	=	1 Maund
$10\frac{1}{2}$ Maunds	=	1 Boja = 259 $\frac{1}{4}$ lbs.

KARNATAK (KUMPTA)

Bijapore

25 lbs. = 1 Maund
8 Maunds = 1 Atki = 200 lbs.

Bhagalkote

25 lbs. = 1 Maund
12 Maunds = 1 Barmani = 300 lbs.

Dharwar, Gadag and Hubli

28 lbs. = 1 Maund (1 Quarter)
12 Maunds = 1 Barmani = 336 lbs.

THE WESTERNS

25 lbs. = 1 Maund
12 Maunds = 1 Barmani Boja

SURAT

37.03 Tolas = 1 Seer
40 Seers = 1 Maund
21 Maunds = 1 Candy = 800 lbs.

BROACH

40 Tolas or } = 1 Seer
41 Rupees }
40 Seers = 1 Maund = $42\frac{1}{6}$ lbs.
21 Maunds = 1 Candy = $885\frac{3}{4}$ lbs.

KATHIWAR

Wadhwan

40 Tolas = 1 Seer
40 Seers = 1 Maund = 41.15 lbs.

Bhavnagar and Dhulia

40 Tolas = 1 Seer
40 Seers = 1 Maund = $42\frac{1}{4}$ lbs.
24 Maunds = 1 Candy = $1001\frac{3}{7}$ lbs.

Amreli and other places

25 Maunds = 1 Candy = 1028 $\frac{1}{4}$ lbs.

BENGAL

104 lbs. = 1 Maund of Cotton
82 $\frac{2}{7}$ lbs. = 1 Maund of Kapas

Cotton sold by Maunds of 40 Seers or 104 lbs. 1 Seer = 2.60 lbs.

TINNEVELLY

500 lbs. = 1 Candy

BURMA

1 Viss in towns and municipalities = 3.60 lbs., up-country
often = 3.65 lbs., and frequently stone weights are used

ENGLISH EQUIVALENTS OF THE METRIC SYSTEM

1 English acre = 0.40 hectares

1 measured ton = 40 English cubic feet = 1.13 cubic metres

1 gallon = 4.5 litres

1 English cwt. = 112 lbs. avoirdupois = 50.75 kgs.

1 English pound = 0.453 kgs.

1 English weight ton = 1,016 kgs.

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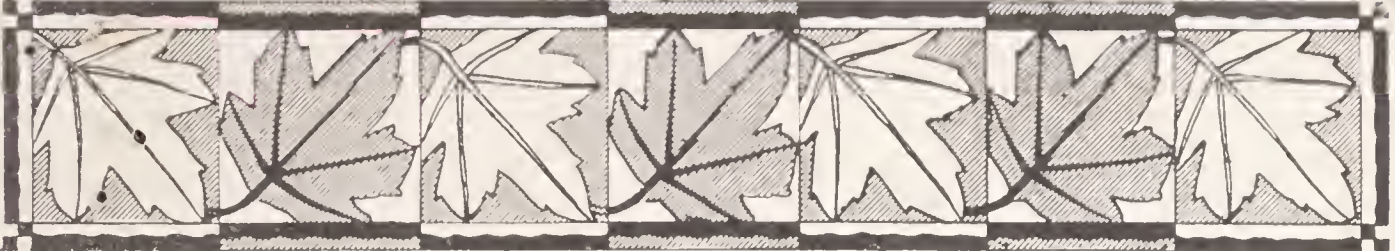
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General Introductory Remarks and Summary of Impressions

REASONS FOR INVESTIGATION.

THE development of the Cotton Mill Industry of Asia since the war has gone apace faster than is generally being realized, and it is indeed to this rapid expansion that we must attribute the major portion of the causes of the depression that has been felt for several years in all parts of the world, but particularly in Lancashire.

During this period the actual growth of cotton spinning machinery was perhaps not excessive, as the following figures show:—

TOTAL NUMBER OF SPINNING SPINDLES.

			1914		1930		Actual increase.
Japan	...	...	2,414,544	...	6,837,000	...	4,422,456
China	...	...	300,000	...	3,699,000	...	3,399,000
India	...	...	6,397,142	...	8,807,000	...	2,409,858
Actual increase since 1914							10,231,314

The comparatively small increase of *actual* spindles that had taken place in these countries in relation to the increased population had undoubtedly contributed towards creating that complacent atmosphere with which in the years immediately after the war Europe regarded this expansion. The consideration of the number of spindles alone is, however, not a true index of the expansion of the industry; we must likewise investigate the output capacity of the plant, i.e., hours during which the machinery is active, its speed as compared with older spindles, the kind of machinery, whether mule or ring. A careful analysis of all these points leads one to the conclusion that the above cited increase of 10,231,314 spindles really represents an equivalent of about 22 million equivalent spindles in Lancashire. It is only logical that all this new machinery had to displace the output of some of the former suppliers of cotton goods of Eastern markets, as the new centres of manufacture enjoy such advantages as geographical proximity of raw cotton and of the selling markets for the woven goods; further, the more modern plant has a lower wage cost in its

favour. This expansion was started when Europe was prevented through the war from competing in her old markets, and when armistice came the European industry was saddled with excessive taxation and the trade union demands and restrictions were at that very period, when efforts were made to reconquer the lost ground, at their extreme height. Finally, India obtained fiscal freedom and protected her industry by the introduction of a tariff which has gradually grown in importance. Lower wages in the East, of course, contribute towards the loss which Europe suffers in the sale of cotton goods in India and China, but they certainly do not form such an important factor as is generally assumed, as the output per operative in India and China is less than with us; in Japan the wages are very near the level of some of the European nations, but the output per operative in that country is as high, and in the weaving it is higher, than in the most advanced cotton manufacturing country of Europe.

Last year it was my duty to investigate the cotton industry of Japan and China, and to compile a report* which seems to have created a deep and in some quarters a rather unpleasant impression, as it brought home to many the first realization of the formidable changes that have taken place and are likely to develop still further. With a view to completing the survey of the Asiatic Cotton Industry the writer suggested to the Committee of the International Cotton Federation that he might collect the material for a report on the Indian Cotton Industry on the same lines as he had done in the case of Japan. This suggestion was endorsed and the present report is the result of my investigations in India from January 18 to March 22, 1930.

METHOD OF PROCEDURE.

The present is the fourth visit which the author has paid to India, the previous ones took place between 1910 and 1914; on those occasions the question of cotton growing engaged his principal attention, but he also visited then a number of mills and reported briefly on these in "Indian Cotton," published in 1915 by the International Cotton Federation.

Thanks to the good offices of the Mill Owners' Associations of Bombay and Ahmedabad, I was enabled to complete my investigations in the comparatively short time of eight weeks, in the course of which I made a fairly close inspection of 40 representative mills of Bombay, Ahmedabad, Delhi, Cawnpore and Madras, and discussed with many millmen, commercial leaders and Government officials problems relevant to the industry. With the intention of enabling a co-ordination of the information collected, use has been made of a questionnaire which has been fairly well answered, but some of the mill owners considered this schedule somewhat inquisitorial. This uniform system of investigation, coupled with verbal enquiries, has certainly elicited some useful information; much of it will be new to the Indian mill owners even, as they are not in the habit of exchanging their experiences. The *technical chapter* in this book will show that there are few mills where spinning only is

* "The Cotton Industry of Japan and China," by ARNO S. PEARSE, published by the International Cotton Federation, Manchester, 21/- nett.

carried on; by far the vast majority of concerns is engaged on spinning, weaving, bleaching and dyeing. There are some mills in India which in output per unit and cost per pound of yarn do not stand behind the best in any part of the world. As regards cloth, both in respect to output and cost, Japan, in consequence of double-shift working, the more general introduction of automatic looms and the superior labour forces, has a great advantage which is also seen in the production of more perfect goods.

There are many antiquated mills in India and a generalization is extremely dangerous, therefore all the more reason exists why the individual accounts of the visits to the mills should be studied. Generally speaking the technical equipment of the Indian mills is so far advanced that the writer was authoritatively assured by a number of Indian cotton mill owners that they are not in the least afraid of the present Lancashire competitive capacity in goods made from yarns up to 40's, particularly after obtaining the additional duties in the latest tariff, and they added that even in finer goods the competition of Lancashire need not be regarded seriously.

Japan's cotton goods imports into India reached during 1929 the formidable yardage of 521 million, against 306 in 1928, and 331 in 1927, whilst British imports into India have fallen persistently; they were: 1927, 1,520; 1928, 1,442; 1929, 1,263 million yards. Great Britain exported yearly on an average over the five years 1909 to 1913 2,508.3 million yards; she has therefore lost 1,245 millions, of which 76 per cent. has been replaced by goods made in India, and Japan has supplied 20 per cent. of Britain's loss. These figures show more clearly than any argument the enormous strides that have taken place in the Indian Cotton Mill Industry since the beginning of the war, and there are indications that, in spite of less remunerative trade, this development in India is steadily going on in most centres, except in Bombay; even there reorganization of the industry is likely to lead to a larger output.

All the efforts of the political activity of the Bombay Mill Owners' Association, supported to a lesser degree of energy by the other centres, have been concentrated for years towards obtaining sufficient protection against the much envied and efficient Japanese mills which set the pace for technical and commercial achievements, as well as for welfare work, not only to India, but also to the rest of the world with the possible exception of the Southern States of U.S.A.

Being an official of the International Cotton Federation, the writer cannot be expected to express in this report an opinion whether the protective tariff of India against Japan and the rest of the world is justified or not. It is certainly true that every country in the world which possesses a cotton mill industry has had at some time also a protective tariff on foreign cotton goods, and even England protected her early factory industry in this way against the products of the hand-loom of India. Particulars of this often-forgotten legislative measure for bolstering up England's infant cotton industry are given in the next chapter dealing with the Historical Development.

Whilst admiration is generally expressed for the efficiency of the Japanese cotton industry, the consensus of the opinions in Indian Government and mill owners' circles is that this country possesses an "unfair" advantage through her ability to work double shifts, and the writer is fully convinced that the 9* per cent. protection, or 3½ annas per pound of cloth, would not have been adopted if Japan had worked only ten hours per day. This latest addition in the tariff brings the total of duties to 20 per cent. as a minimum, but as Japan sends to India mostly cloth made of 30's and 40's, the 3½-anna rate will apply to the bulk of her trade, and it will mean that the duty has been increased from 11 per cent. to 25 per cent.; the coarsest goods which Japan has been in the habit of sending to India have to pay as much as 35 per cent. The result of this legislation will, of course, be to drive Japan forcibly to the manufacture of finer goods, to the detriment of Lancashire, and it may cause the Japanese to establish mills in India, as they have already done in China. The Japanese possess already a mill in Bombay, where they have gained experience which has proved that even in Bombay, during this last crisis, they have been able to make their experiment pay after reorganizing the old mill which they had bought. There is nothing in the Factory Act to prevent India from working two shifts, as female labour is used practically only in the reeling departments, and it would be little expense to double these in order to cope during the day with the output, if double shifts were introduced in the other departments. There are in India at the present time ten mills working two shifts; they are new concerns where the owners are anxious to write down the value of machinery bought at extremely high prices at the end of the boom, but it may be taken as a general opinion that night work is not liked in India.

Bombay mill owners, in their very energetic protectionist propaganda, have certainly not appreciated to the full the *interior competition* of mills in other parts of India. Bombay represents now only 47 per cent. of the total spindles of the country; Ahmedabad claims now 22 per cent.; and Southern India has, as we shall show, many advantages over the rest of the country, so that we may see future developments on a more extended scale in these parts. That it is hard for some antiquated mills to compete with the more recently established ones will be realized if we consider that in Ahmedabad are two spinning mills which turn out almost 9 ozs. of 20's warp per spindle in 10 hours, against some in Bombay with 5½ ozs. and 6 ozs. It is no use blaming the foreigner for all the evils. In the weaving there exists a difference of 20 per cent. in the efficiency of the looms. Some mills are financially unsound, having disposed of all their profits during the boom in the shape of dividends, and now, when unfavourable times have come over the industry throughout the world, they are obliged to sell regardless of the market in order to obtain the necessary funds for carrying on the mill, and thus they undermine the market for all the mills. Amalgamation is the remedy that is proposed in Bombay, the same as in other countries. In some quarters it is feared that the recent addition in protective duties will again cause a cessation of the negotiations that have been going on in that direction, as some of the managing agents

* Added in April, 1930.

are loth to give up their independence, and hope that by means of the additional duties they will be able to exist on their former methods.

The anomalous institution of "*managing agents*" is described in the introduction to the Technical Section. Originally these firms which promoted the mills were paid a fixed percentage on all the sales, regardless whether they showed a profit or loss. Twenty years ago there were many profits or commissions going into the pockets of managing agents which, according to Western ideas, were illicit. The absence of profits for several years since the war has caused the shareholders to insist upon a revision of the terms under which the mill agents work, and now it is the exception to the rule when they are paid on turnover; they are remunerated according to profit, and "secret" commissions are the order of the day only in very few concerns. Yet several of the Bombay mill owners described to the writer the institution of managing agents as "deplorable, not sufficiently in touch with either buying or selling markets." The main function of the managing agent is to finance the mill, as banks in India are said to refuse to undertake what they do in other countries, but soundly financed mills have no difficulty in getting advances. It is very certain that when an amalgamation of the Bombay mills does take place the first reform to be initiated will be the abolishing of the "managing agent," thus bringing about considerable economies.

Welfare work amongst Indian cotton operatives is more needed than in any other country. It is to be hoped that the very praiseworthy work undertaken in this connection by Messrs. Binny (Madras) and Tata (Nagpur) will lead many others to copy their example; the projected Bombay mill merger would certainly fail in its duties if it did not undertake seriously welfare work. The reproach has repeatedly been made to the Bombay mill owners by Government and private investigators that they are out of touch with their workpeople, and the writer considers that a system such as is in force in Binny's mills at Madras, where the families are decently housed, children and adults schooled to read and write, half-timers are fed, all made to realize the advantages of sanitation, is the only means of raising Bombay's low class of labour to higher efficiency. The worker in India, more than anywhere else, has to be taught how to spend his earnings to the greatest advantage of himself and family. At present his untrained brain and his permanent dependence on the moneylender make him dissatisfied and an easy prey to the political agitator. His frail constitution, undermined through incorrect feeding and other unwise conditions of living, requires special attention from the employer in the shape of judicious welfare work. It would be unwise to pay the operative more money; he would still be in the same impecunious position. It is the employer who must spend some of the operatives' earnings towards his improvement, as is done in Japan and the Southern States of U.S.A. Welfare work amongst the Indian cotton mill operatives, particularly in Bombay, is an absolute necessity, but it will also be remunerative from the points of the mills and the nation.

Whilst the Indian in centuries past was an efficient cotton spinner and weaver, supplying from the sixteenth to the eighteenth century the wealthy inhabitants of the world with extremely fine

tissues, we must bear in mind that in those days he was producing these goods in his own home, whilst to-day factory conditions prevail. The writer, in the course of his mill visits, could not help but be constantly impressed with the idea, which gradually became a strong conviction, that the Indians as a rule, and the workers in Bombay in particular, do not possess the constitution which would be necessary for uninterrupted work under factory conditions of the ordinary type, in a climate such as it is in India during most parts of the year. Some mill owners expressed agreement with this view, and pointed out that they had installed air-cooling plants, by means of which the air temperature is reduced by as much as 30° , and even the excessive moisture can be lessened by it. It appears to the writer almost imperative that if Indian mill owners desire to improve their labour, and wish to extend the industry without undermining the health of the operatives, they will all have to attend to the welfare work and to the improvement of atmospheric conditions in the mills, as some have done. The Indian is first and foremost an agricultural worker; the climate and the work in the mills (whatever kind it be) dictate the provision of a special organization in order to make it possible for the agricultural worker to become an industrial one under factory conditions. If they are not provided the labour will continue to give rise to complaints on the part of the employers.

In some quarters it is suggested that the hours of labour, ten per day, are too long, and it is pointed out that Japan keeps its operatives at work only $8\frac{1}{2}$ hours per day, but we must consider that work in Japan and in India are two entirely opposite conceptions, and the conditions under which the mills in the two countries operate differ very much. Work in Japan means close attention during $8\frac{1}{2}$ hours, and not intermittent work, as in Indian factories, where workers are accustomed to absent themselves for longer or shorter periods during the day from their machines, according to many of my informants. In most of the mill yards one can at all times during the day see large numbers of them loitering about, taking food or, at special places, smoking. The fact that the machines do not stop for a rest at stated times during the morning or afternoon is probably conducive to this loitering, but I was told that the workpeople preferred the present indefinite rest, accorded to them by custom, to fixed periods, as is the case in every other country.

In Bombay about 20 per cent. of the workers may be considered permanent mill operatives, up-country the percentage is higher. Reliable statistics as to the length of time during which the operative remains in the same factory were not available, but it is estimated that the average for Bombay is between 6 and 8 months. All the operatives return occasionally to their native heath, mostly for marriage or other family festivals, and some go periodically back to help in the fields. This constant flux of labour makes the systematic training of new hands in special schools, as is done in Japan, very desirable.

No wonder that the Indian, particularly the Bombay mill hand, is all too often an incompetent fellow. His constitution is frail, he does not get the food which is most suitable for him, he lives, according to all information received, an unwise life, indulging frequently in "toddy" (alcoholic drink obtained from cocoanut

palms), he has no schooling, no ambition, is careless in the extreme, causing unnecessary waste of mill stores and raw materials, he is not disciplined and is said to be by nature indolent as well as improvident. No industrial centre can in the long run flourish with such labour; it behoves therefore the master to improve the quality of labour or to recognize the inevitable.

The *wages* in the Indian cotton industry differ from mill to mill, though in Bombay there are not marked differences, but as one gets further into the country, even within 20 miles from Bombay, they become lower. Ahmedabad has slightly lower wages than Bombay, but as rent and living expenses are lower the worker there is at least as well off as in Bombay; Cawnpore, Calcutta, Delhi and Madras City are still lower, and one may say that, generally speaking, wages in South Madras Presidency are only half of what they are in Bombay. In the Wages chapter of this report will be found the individual rates paid for each occupation in the different districts. As a result of the settlement of the last strike in Bombay, a uniform list of wages has been set up by the Bombay Mill Owners' Association, but these new rates have not yet come into force. Whilst they were agreed upon in part with the unions, the latter have, in consequence of the last strike, ceased to be representative organizations; they are said to have no more than 5,000 paying members on the lists, and consequently there is now no labour organization in existence which could effectively enforce this uniform list. Without trade union support its application will be a difficult task.

Wages in most mills are paid monthly, and the workpeople, in 80 cases out of 100, are having recourse to moneylenders to tide them over the first month of their work, or for the purpose of providing, what seems to the Western mind, amounts out of all proportion to the income of the individual for squandering on family festivities or religious ceremonies. Here again the mill owners maintain that usage has dictated the monthly payment, and that this method has been found to be the best; but some few, with more considerate minds, have started fortnightly payments of wages. Though some mills give advances of wages to the operatives, yet even most of these are still taking loans from the moneylender, paying him 1 anna per rupee per month in interest.

Only in Ahmedabad has compulsory arbitration in cases of differences between masters and men been accepted. Mahatma Gandhi is the arbitrator appointed by the operative side, and it is largely due to his powerful influence that Ahmedabad has been comparatively free from labour troubles. It is also generally agreed that the Gujarati workman of Ahmedabad is superior to the Bombay operative.

The two strikes in Bombay, of six months' duration, were of great benefit to the rest of the industry, mainly because the financially unsound concerns of Bombay were out of the market, and could not during that time dump their goods below cost. Only the Japanese, who produce goods similar to the Indian mills, profited from the strikes of Bombay, not the other cotton manufacturing countries.

Statistics show that at the present time Bombay is over-producing to the extent of 20 per cent.

The uncertainty of the tariff changes has of late caused a withholding of the demand for goods.

In view of the world-wide depression of the cotton industry, brought about by a too rapid expansion to which India herself has contributed, she could not hope to escape some of the repercussions of the world-wide crisis that has affected the cotton industry since 1921. Certainly India has fared better than most countries, as is shown in the *financial chapter* of this report. Bombay mills are undoubtedly suffering more than those in other parts, due largely to inferior labour, to antiquated machinery, to lack of funds, having disbursed huge war profits, to lack of direct contact with the consumer and impossibility of close mill supervision in view of the distance which separates the "managing agent's" office from the mill. (Generally the mills are in charge of men well qualified to look after the machinery of a department but seldom possessing organizing power or commercial knowledge.)

In short, we are witnessing in Bombay exactly what Europe and U.S.A. have experienced: *the pioneer centres have rested too long on their laurels*, new districts not interfered with by trade unions or by old usages have sprung up and gradually, almost imperceptibly, they have become very formidable competitors with reduced costs of production. Thus we see once more that the centralization of an industry whilst it had many advantages in the past century has become a great handicap. Formerly the humid atmosphere, the available supply of skilled labour and limited transportation facilities dictated the massing together of the cotton mills, but to-day invention has been able to bring about more uniform and more suitable atmospheric conditions than nature provides (for has not even Lancashire some 50 days in the year unsuitable for spinning?); furthermore, the ring spinning machine is easier to follow than the mule, and the same applies to the automatic loom, consequently the skill of the operative is of much less account than in olden times. Trade unions with antiquated limitations of output can only flourish where the industry is centralized. The difficulty of transportation has been overcome almost everywhere. Whenever an industry is massed together, rents, rates and cost of living go up, and Bombay suffers from these drawbacks. Finally, the facility and cheapness with which electric power is distributed also lead towards decentralization of industry as a whole, and cotton is not going to form an exception. The indications are that the future development will be in the cotton-growing centres and near seaports, but in scattered districts, not in massed formation, and Southern India is likely to receive the attention of the promoters of new mills. There, excellent cotton is being produced, there is plenty of cheap labour, many accustomed to hand-loom weaving and transport facilities are excellent.

There is a tendency in Bombay, as well as in Ahmedabad and to a lesser extent in other parts of India, to *spin and weave finer counts* than in the past. Bombay regards the manufacture of fine goods as one of the means of "setting their house in order," a vague phrase commonly used when discussing reforms for the reconstruction of Bombay's cotton industry. Almost every mill which I have visited was using Uganda cotton and making with it a ring yarn, generally 40's

warp, of particular soft touch. The tables of yarn and cloth production published in this report show clearly that we must expect India in the near future to capture more of the fine trade. Bombay and Madras mills have access to the sea, and consequently the transportation of exotic cottons for finer spinning is almost as cheap as that of domestic cotton to places in India where it has to be sent by rail. The range of goods made by some of the mills in India does not stand behind that of the largest mills in Europe, though the goods are mostly defective, partly through careless workmanship and partly through the leafy character of most of the Indian cottons used; a defect which can only be overcome through the use of a larger number of cards. The employment of automatic looms, except at Binny's mills in Madras, is in its infancy. The goods produced on their 2,300 automatic looms, though nothing but Indian cottons are used in the spinning of the yarns, are the most perfect which the writer has seen on his journey through India; they are mostly high-class cotton suitings as well made as in any country.

Though the actual cost of labour used in the production of a pound of yarn may be about $\frac{1}{2}$ d. lower in India than in Lancashire, as shown in the Costings chapter,* the overhead charges in India, due to the increased initial cost, are heavier. (The protective duties more than compensate the Indian mill owner for the disadvantage of higher cost of mill building and equipment.) In the weaving the difference in the labour cost in favour of India is only trivial, due to the small number of looms which an operative in India seems to be able to attend to.

The quality of goods produced in most mills is certainly inferior to what we are shipping from Europe to India: generally the yarn is leafy, but the quality is good enough to replace our production, and that is what counts.

It may take some years yet before the Indian mills will be able to supply their market entirely with their own manufactured cotton goods, but that time is sure to come, perhaps in a distant future. We, in Europe, must realize that all the textile machinery that is being sent to India, or to any other country, is being bought for the *one* purpose of producing the goods which we have been in the habit of supplying to these countries. When India obtained her fiscal freedom, Lancashire's largest customer for cotton goods was turned into a formidable competitor, who will every year become stronger and stronger, and even to-day India is in such a position that she need not be apprehensive of the competition of her first teacher, though this position is partly due to her protective tariff. Lancashire's chance for the future is in fine counts, but these for the time being are in disrepute. If it was a mistake to give India fiscal autonomy, it cannot now be helped, and the sooner we reconcile ourselves to this now inevitable situation the more harmonious will be the relations between the two countries. This is an opinion expressed on all sides in India, and it seems logical.

As the Indian Central Cotton Committee is now superintending with marked success the problems relating to *cotton growing and marketing*, it was not necessary for me on the occasion of this journey to visit the various cotton-growing centres. Many Indian cottons have been brought to my notice in my visits to mills and cotton merchants which could be used to great advantage in the

* Page 160.

mixings of many more European mills than is the case at present. There are some 1 $\frac{3}{4}$ million bales grown in India which are suitable for spinning yarn for which most spinners use at present low-class short-staple American cottons. With a view to popularizing the use of Indian cottons two detailed tables of all the varieties grown in India are given, the one prepared by Dr. J. A. Turner, Superintendent of the Laboratories of the Indian Central Cotton Committee, gives the spinning tests of each kind and the other table, prepared by a large cotton exporter, gives the commercial names, the use to which each country puts them, their commercial descriptions, and the uses to which they are being put in the various countries. It is hoped that this information will induce spinners who have not used Indian cottons so far to give them a trial.

The malpractices in connection with the handling of East Indian cotton* have been checked to some extent by legislation instituted through the Indian Central Cotton Committee. Unfortunately the watering of cotton still persists, as will be seen in the chapter dealing with raw cotton. It is probable that this practice has increased rather than diminished. It has so far been impossible to stop this watering by enactment of legislation, except in the native state of Hyderabad.

In the pages that follow an attempt will be made to enter into the details of the general headings indicated in this summary.

The writer asks for a sympathetic consideration from the Western readers of the Eastern characteristics in mill conditions, as described in this report. In order to understand labour and housing we must judge them from the general outlook of conditions prevalent in the East. I ask the Eastern reader to pardon the Western frankness with which I have ventured to describe some of the subjects. My excuse for the use of less diplomatic circumlocution than is customary in the East, is that my circle of readers extends over many countries and perhaps the more direct language is more in accordance with the oft-repeated request of several Bombay mill owners, not to hide the shortcomings.—It should be understood that suggestions or conclusions contained in this present Report are not to be regarded as the official opinion of the International Cotton Committee.

A great deal of highly instructive material relating to India's cotton industry has during the last few years been compiled by eminent Government officials and other investigators. Excerpts from such publications, especially the Memorandum for the Royal Commission on Indian Labour, prepared by the Government of Bombay, the "Noyce" and "Hardy" reports, have been reproduced, as they deserve a wider publicity than they have had so far.

As this chapter aims at giving a synopsis of the impressions obtained, perhaps it is not out of place to contrast here the main points of the *Indian and Japanese Cotton Industries*. The following summary is subject to the usual exceptions of the general rule; needless to say that it is intended only as a bird's-eye view for the busy man who cannot afford the time necessary for the close study of the two books issued by the International Cotton Federation. It is with a certain amount of diffidence that the writer has attempted this generalization in response to various requests of Indian mill owners.

* Of which the writer complained strongly in his reports 20 years ago.

INTRODUCTION : SUMMARY OF IMPRESSIONS II

INDIA

(1) Labour is steeped in usages, ruled by caste, and, in Bombay and a few other places, by trade unions. The Indian is said to be indolent by nature, without primary education, lacking ambition, frequently indifferent to earn more money, if more work is expected in exchange. Neglect of elementary sanitary conditions. Dirty houses.

Untrained brain easily misled by political agitators, with consequence of frequent strikes and political upheavals.

Wasteful with mill stores. Careless work, productive of waste.

A spinner attends to one side of a frame; and a weaver, taking the average of the country, to less than two looms.

Wages per head are 10 to 15 per cent. less in Bombay than in Japan, but, output being smaller in India, labour cost is higher per pound of yarn and per yard of cloth produced.

Frail constitution of operatives, particularly in Bombay, mostly males, unsound feeding, and living under insanitary conditions; according to mill owners, operatives lead lives which undermine their health.

Caste prevents the more general employment of female labour. Where female labour is possible, such as in the reeling rooms in Bombay, they work at least twice as hard as the male operatives, and for less money.

(2) Welfare work so far extends only to primitive housing, as a rule. Education is omitted, except in very rare cases. Crèches and maternity wards are on a very limited scale and primitive.

(3) Defective work, particularly in the weaving, except in one mill where automatic looms practically prevent the general defects.

JAPAN

(1) Labour is not unionized. Operatives work as many machines as can be attended under fair conditions, actually up to three sides of a spinning frame, and 5.5 looms per operative (against one side and less than two looms in India).

Good primary school education compulsory throughout the country; operatives are clean in themselves, and have scrupulously clean houses.

National pride permeates all classes; it is almost a religion and has created a group instinct, all working like a trust.

Every operative saves something out of the wages in Japan, whilst in India 80 per cent. of the operatives are said to be in the hands of the moneylender.

Robust constitution, feeding on latest scientific principles undertaken by the mill. Swedish drill a common pastime.

Majority of operatives are females, willing workers.

(2) Welfare work, probably on the highest scale of any country. Clean, roomy houses, dressing rooms, bath, dining rooms, hospitals, crèches; very extensive schooling to operatives, who already enjoyed primary education. Free entertainments, sports.

(3) Much more perfect work, owing to better education. The much larger employment of automatic looms and attachments ensures more perfect cloth.

INDIA—continued

(4) Lack of discipline. As no fixed periods are provided for rest and feeding between 6 to 11 and 12 to 5, operatives are permitted to go into the mill yard when they feel inclined. This causes waste of time and bad work. Operatives in the habit of absenting themselves for days and months. Frequently special substitutes have to be engaged.

(5) One shift of 10 hours, except in about ten mills in the whole of India, where double shift is in force. Four days' rest per month.

(6) India only country where most of the mills are run on a system of "managing agents"; instead of one managing director there is a firm of managers. Principal duty to finance mill; this firm has frequently too many kinds of businesses to attend to besides the mills.

Mills in Bombay left largely in care of men trained to look after machinery of one department, but not in possession of organizing or commercial ability.

Lack of intimate contact between Head Office in the city of Bombay and mill at the outskirts.

Mill agents employ selling brokers, and are not in direct touch with client.

(7) Technical equipment in principal centre has not advanced. Many Bombay mills are museums of machines from all textile machinists.

The presence of leaf in the yarn of most mills indicates insufficient cleaning and carding.

Many mills are dirty, particularly the floor. Cotton is allowed to be wasted in passages and mill yards.

Except in two mills, mass production is unknown.

JAPAN—continued

(4) Punctuality is ingrained. Proper intervals for food and rest, when machinery stops.

(5) Double shift of 8½ hours each. Two legal rest days per month, but some mills stop four days.

(6) 60 to 70 per cent. of industry in hands of three amalgamations. Each with specialist for every department. Competent men with engineering and commercial knowledge resident at the mills.

Advantages of amalgamation in purchase of raw material, mill stores, and sale of goods. The existence of three large Japanese concerns buying cotton in U.S.A., China, India, Egypt, and having also organizations for the sale of manufactured goods in these and other countries is an advantage to the Japanese cotton industry such as no other country enjoys.

(7) Technical instruction is general. There is an eagerness to try out new inventions. Large amounts are spent annually to keep machinery up to date.

Machinery runs very fast.

Special attention given to carding, with a view to getting a clean yarn and cloth.

Extensive use of ball bearings.

Tidiness of all mills.

Mass production system is general in most mills.



Photo by "Indian Textile Journal."

Monster Meeting of Mill Hands in Bombay on May Day

INDIA—continued

(8) The financial condition of many mills in India, particularly in Bombay, is unsatisfactory. The primary cause is the excessive distribution of dividends during boom, for which investors are not free from blame, as they objected to accumulation of reserves, preferring during the boom payment in shape of phenomenal dividends. Other causes, such as labour troubles, etc., have been mentioned above. Unlucky speculation in cotton and mill shares contributed to the Bombay crisis.

(9) In the opinion of Indian mill owners, the fixing of the rupee exchange at 1s. 6d. had as consequence that the financing of all industrial undertakings became more costly, and that the purchasing power of the vast majority of the people was reduced. The raising of the value of the money was bound to enhance cost of living, particularly in a country where the daily earnings are not more than 3d. per head of population; all countries in Europe with a high rate of exchange have a more expensive cost of living (compare Holland, England, Germany with France, Italy, Spain). India exports always more than she imports; balance is remitted on basis of world's prices, not at 1/6 per rupee. As these exports are agricultural products, the 280 million agriculturists have less purchasing power.

(10) In India frequent Government investigations, factory law and tariff changes have had a tendency to upset industry.

JAPAN—continued

(8) The financial condition of the Japanese mills is mostly first class, probably better than that of cotton mills in any country of the world. Causes for this are discreet distribution of dividends during boom, efficiency of labour and organization, as mentioned above. A lucky speculative purchase of cotton at outbreak of war set the industry on a sound basis.

(9) Japan's low rate of exchange was a decided help in the exportation of goods up to 1929.

(10) In Japan changes in the Factory Acts are planned ahead for years, giving the industry time to adjust itself to the new conditions; thus the recent change in working hours was notified five years ahead.





Historical Development.

Cotton is not indigenous to the United States of America, the present largest cotton supplier of the world; it was introduced and it has been cultivated there on a large scale only during little more than the last century. We must, however, regard cotton as being indigenous to India.

The oldest books extant, the Riga Veda, written somewhere between 4000 and 1200 B.C., and Sanskrit records of about 800 B.C., make reference to cotton growing in India, and though the Riga Veda's passage seems to be somewhat uncertain, the evidence in the Asvalayana Srauta Sutra is fully established, as there silk, hemp and cotton are contrasted. In the "Laws of Manu" the sacrificial thread of the Brahmins which is worn to this very day is mentioned as having been made of cotton.*

We have evidence from the works of other writers, centuries before the Christian era, that cotton was woven into cloth. Herodotus, who lived in the fifth century before Christ, writing of India says: "They possess likewise a kind of plant which, instead of fruit, produces wool of a finer and better quality than that of sheep; of this the Indians make their cloths."

Later on, the historians who accompanied Alexander the Great to India describe the cotton plant, and Theophrastus mentions "a tree from which the Indians make garments and whose leaves are like those of the mulberry tree, whilst the whole plant is similar to the wild rose tree; these plants are grown in rows resembling vines." Later references are made by Strabo and Pliny, and an authority of the first Christian century mentions the export of cotton to the East Coast of Africa, and differentiates between a coarse and a fine quality of cloth. It is stated that India had practically the monopoly in the manufacture of cotton goods between the years 1500 B.C. and 1500 A.D. During the Roman era and the Middle Ages India exported cotton to Europe, where it was considered a luxury. During the Middle Ages, Arabian merchants spoke of the fine textures which could be bought there, and Marco Polo mentions that the finest and most beautiful textures were woven on the Coromandel Coast. From India the cultivation of cotton

* A detailed account of the early history of the Indian Cotton History is given in a recent publication entitled: "The Indian Cotton Textile Industry: Its Past, Present, and Future," by M. P. Gandhi, M.A., Secretary of the Indian Chamber of Commerce, Calcutta. Mr. Gandhi has quoted extensively from "Hand-Spinning and Hand-Weaving," by S. V. Puntambekar and N. S. Varadachari, published by the All India (Hand) Spinners' Association, Ahmedabad, 1926.

proceeded to China. The Portuguese discoverers of India admired the magnificently coloured turbans which they found there, and later on the British started factories amongst the weavers of Calicut, Masulipatam and the Hoogly. The British first landed at the town of Calicut. From the name of the town the word calico is derived.

hac planta mirabili opinionones, dum ali
etiam Zoophytorum eam numero adscri
care videamur, eam plantam simplicem



(quæ quomodo phytomagnetica arte p
diximus) ut sanguinaria, huiusmodi succ
domum certi generis referat. cuius extre

THE VEGETABLE LAMB (reproduction from an old wood-cut.).

There was a curious myth in the Middle Ages in Europe known as "the vegetable lamb of Tartary," or the "Scythian Lamb." It was supposed that the fruit or seed-pod of this particular tree, which no doubt was the cotton tree, when it burst fully open, disclosed to view within it a little lamb. From the fleeces of these "tree lambs" ("Baumwolle"), which were of surpassing whiteness, the natives of the countries where these "tree lambs" are found wove materials for their garments and head-dress. This myth, brought by Sir John Mandeville into England, continued to be believed till the 17th century.

Explorers of later periods are full of praise for the wonderful muslins of Dacca. They mention that the texture appeared like spiders' webs, and that when bleaching on the grass it was "invisible owing to the fineness." In 1660, Tavernier writes in his diary with regard to Indian cotton cloth: "If a person puts such garments on his body, it is visible just as if he were naked. The merchants are not allowed to buy this cloth. All of it must be delivered into the hands of the King, who has garments made of it for the inmates of his harem and the wives of his noblemen, as the King and the noblemen find great pleasure in seeing their women attired in this wonderful texture." Even in the eighteenth century Indian spinning was so much superior to that of Lancashire that weavers of Blackburn and Bolton imported large quantities for the purpose of weaving the yarn on their looms.

The world undoubtedly owes a debt of gratitude to India for

the pioneer work in the cultivation and manufacture of cotton. It was, as far as we can trace, the birthplace of that mighty industry which extends to-day to every civilized country.

The export trade which India undertook in the mediæval ages was of very considerable extent, even if we make allowances for exaggeration in the description of her industry. Moreland, who searched much of the old literature, in his "India at the death of Akbar," writes: "Even if we conclude that Bengal wore sack-cloth, the fact remains that cotton weaving was by far the most exclusive industry of India, and I think it fair to say that the aggregate production was one of the great facts of the industrial world of 1600. Indian looms had a practical monopoly of the home market and in addition had three principal export markets, Arabia and beyond, Burma and the Eastern Islands, besides minor outlets in various other parts of Asia and on the East Coast of Africa."

The following districts, according to Mr. M. P. Gandhi, supplied the foreign markets: Bengal, Coromandel Coast, Cambay (which obtained goods from Ahmedabad), Pattan, Baroda, Broach, Surat, etc., and the Indus Plain (which was supplied from Lahore), Multan, Sukkur, were all inhabited by a large community of weavers. Ahmedabad, Surat, Masulipatam, Hiji in Bengal, Sripur near Dacca, are all in within easy distance of the sea.

"Gangitiki" was the Greek name for muslins and was applied to the muslins of Dacca; the test of its fineness was said to have been for a piece to be passed through the ring of a finger.

In parenthesis we may remark that if these descriptions of fineness are not grossly exaggerated they show how Indian cottons have deteriorated, for certainly nowhere near Dacca are any cottons grown at all, and none of the cottons raised to-day in the world would pass the above test.

The Coromandel Coast was most famous for printed calico. Marco Polo wrote (13th century): Masulipatam produces the finest and most beautiful cottons to be found in any part of the world and it supplied the cloth to the Imperial household. In this district there were other centres such as Vizagapatam, Arcot, Madras, Nellore, Tinnevely, Tuticorin. Ahmedabad and Benares were the places where cotton cloth with gold and silver were woven and sent from there to many parts of the world. Cambay made cheaper cloths for Arabia, Pegu and Malacca. Gujarat supplied, according to Varthema, all Persia, Tartary, Turkey, Syria, Barbary, Arabia, Ethiopia with cotton and silk tissues. Tavernier states that in Surat and Broach they used to bleach the pieces in the fields "on account of the lemons growing in the neighbourhood"; in the grey the pieces measured 21 cubits, but when bleached only 20; there are both narrow and broad kinds. The broad cloth measures $1\frac{1}{2}$ cubit in width and has 20 cubits in length. One of the fabrics is mentioned under the name of "Evening Dew" (an early trade name) probably because the cloth was bleached in the dewy fields. Tavernier mentions a Persian ambassador who brought to his sovereign a "cocoanut of the size of an ostrich's egg, enriched with precious stones, from which when opened a turban was drawn of 30 cubits (30 yards) in length, consisting of muslin so fine that you would scarcely know that you had it in your hand."

Weaving was at first confined to castes set apart for it, many castes undertook spinning and weaving, and these united into guilds which were responsible for the organization of the industry. The art of spinning and weaving being confined to certain castes became a hereditary occupation and thus specialized skill developed in the course of centuries. The guilds were the intermediaries between the workers and the clients, giving advances to the former. There is even evidence that in the seventeenth century some factories (*Karkhanas*) were established. Even in those days the spinners and weavers were frequently in need, as it is evident that advances to them had become the order of the day. They seem to have remained ever since in the hands of moneylenders.

The East India Company, which began in 1601 to send the products of India to England, fostered the establishment of factories for the weaving of cotton and silk goods. Murray states that "India's fabrics, the most beautiful that human art had anywhere produced, were sought by merchants at the expense of the greatest toils and dangers." This was at the time when the Moghul empire fell into decay, and it is due to the trading instincts of the British that for the next century the art of spinning and weaving was maintained. They established workshops in Ahmedabad, Broach, Surat, Cutch, Cambay, Calicut, Masulipatam, Agra, Dacca, etc., in all the places where for centuries the cotton industry had existed, and at the beginning of the sixteenth century the Company exported Indian cottons in the raw state to England for the purpose of making candle wicks and fustians. In 1622, Gujurat exported almost 500 bales of yarn for the use of fustian weaving to England; in 1630, the weavers started a boycott at Broach and demanded from the Company to choose between buying cloth or yarn. Evidently for a period of 30 years trade fell off, but in 1658 it had again reached 500 bales of 160 lbs.

The East India Company received from Charles II the gift of a fishing village, called Bombay, which the Company at once developed in a thorough businesslike manner. English weavers were sent out with a view to teaching the natives who were collected at Bombay from all over India the making of English designs and their own methods of working. Evidently the English public preferred the Indian designs, for in a dispatch of the Directors we read that the "weavers should make such flowers most convenient and agreeable to their own fancies which will take better here than any strict imitation than what is made in Europe." This was in 1683. The imports of Indian cotton goods had reached £150,000 in 1677, and the records show that from 1697 to 1702 they had reached £1,053,725, which for those periods was a very important amount. Public opinion was attacking the wasteful exports of money to pay for these goods, and the woollen weavers of England complained bitterly of the "ruin" which the imports of Indian cloth caused, for evidently they were used to replace woollen products. According to Dr. Khan's "East India Trade in the Nineteenth Century," a public writer complained: "We have already and are now inciting the Indians and Chinese that are a numerous and laborious people and can do and live without fire and clothing and with trivial expense for food. It is 'impolitick' and utterly destructive for our own manufactures."

The outcry became general and finally it was decreed by statute that "from Michaelmas, 1701, all wrought silks, Bengals, and stuffs mixed with silk or herba, of the manufacture of Persia, China or the East Indies, and also all calicoes—printed, painted, dyed or stained there—should be locked up in warehouses appointed by the Commissioners of the Customs, till re-exported, as none of the said goods must be worn or used, in either apparel or furniture, in England on forfeiture thereof and also a fine of £200 penalty on the person having or selling any of them."

This law was evidently not strictly carried out, for in 1721 the use of printed Indian calicoes had again become so universal "as to be a great detriment and obstruction to the woollen and silk manufacturers of the Kingdom." An Act of Parliament was passed in 1721 prohibiting the wearing of calicoes under penalty of £5 for each offence and £20 to the seller.

Defoe's remarks in his Weekly Review, quoted in Baines' History of British Cotton Manufacture, are worth recording, as they bear testimony to the excellent quality of the Indian goods and explain the wave of fashion in their favour. He wrote: "The general fansie of the people runs upon East India goods to that degree that the chintzs and painted calicoes before only made use of for carpets, quilts, etc., and to clothe children and ordinary people, become now the dress of the ladies, and such is the power of mode as we saw persons of quality dressed in Indian carpets, which but a few years before their chambermaids would have thought too ordinary for them; the chintz was advanced from being upon their floors to their backs, from footcloth to the petticoat, and even the Queen herself at this time was pleased to appear in China silks and calico. Nor was this all, it crept into our houses, our closets, and bed chambers, curtains, cushions, chairs and beds themselves were nothing but calicoes or Indian stuffs, and, in short, almost everything that used to be made of wool and silk, relating either to dress of our women or the furniture of our houses, was supplied by Indian trade. Above half of the woollen manufactures were entirely lost, half of the people scattered and ruined, and all this by the intercourse of the East India Trade."

The example of the prohibition of imports of Indian cotton goods into England was followed in Holland, and Baines states that nearly all the Governments of Europe thought it necessary to prohibit or load them with heavy duties to protect their own manufactures.

In 1717, the East India Company obtained a *firman* from the Emperor Farrukshyar which exempted its trade from transit duties and tolls, thus giving the company and many of its servants who traded on their own account an advantage over the Indian trader.

The exemption from duties led to dissatisfaction, and during the next period frequent changes of imposition and exemption alternated, but finally all except English goods had to pay transit duties.

The East India Company, realizing towards the end of the eighteenth century the value of the inventions that were being achieved in England, definitely decided to encourage in India the growing of cotton and to export it to Europe for the purpose

of spinning and weaving it on the power machines that had been evolved by British brains.

The extent to which Indian cotton goods were taxed on importation in 1813 is seen from the evidence of Sir Robert Brown before the Lords' Committee; he stated that the *ad valorem* duties were:

10 per cent. and £27 6s. 8d. per £100 on muslins for home consumption.

£3 6s. 8d. per £100 on importation, and £66 6s. 8d. per £100 for consumption of calicoes.

£3 6s. 8d. per £100 on importation of goods which were prohibited from being consumed in England and could therefore only be re-exported.

There is a record of a petition in 1831 of 117 Calcutta merchants asking for a 10 per cent. reduction of the tariff on goods imported in England in view of the fact that British goods imported into India paid only 2½ per cent. In 1835 Indian goods still paid 17½ per cent., but in 1852, when machine production of cotton goods in England had made great strides, the tariff was reduced to 5 per cent. on cloth and 3½ per cent. on yarn.

The tariff rates on imports of cotton goods from India into Great Britain from 1797 to 1846 are given as follows by Professor S. V. Puntambekar and Sjt. N. S. Varadachari in their book "Hand Spinning and Hand Weaving," published by The All-India Spinners' Association, Ahmedabad:—

For every £100 value

Year	White Calicoes	Muslin and Nankeens	Dyed and Printed goods	Articles of Cotton Manufacture not otherwise charged
1797	£18 3 0	£19 16 0	Prohibited	—
1798	21 3 0	22 16 0	"	—
1799	26 9 1	30 3 9	"	—
1802	27 1 1	30 15 9	"	—
1803	59 1 3	30 18 9	"	—
1804	65 12 6	34 7 6	"	—
1805	66 18 9	35 1 3	"	—
1806	71 6 3	37 7 1	"	—
1809	71 13 4	37 6 8	"	£27 6 8
1812	73 0 0	37 6 8	"	—
1813	85 2 1	44 6 8	"	32 9 2
1814	67 10 1	37 10 0	"	32 10 0
1825-32	10 per cent. <i>ad valorem</i> duty, and an additional 3½ per cent. per sq. yd. if printed			.. —
1846	Repeal of the £10 duty.			

The following prices are quoted in the same book to illustrate the impossibility of the Indian hand spinner to compete against the English machine-spun yarn in 1840.

		Price of 1½ hanks.	
Count of Yarn.		English. Rs. A. gds.	Indian. Rs. A. gds.
200	...	0 3 0	0 13 0
190	...	0 2 15	0 10 0
180	...	0 2 15	0 6 0
170	...	0 2 10	0 5 10
160	...	0 2 10	0 4 0
150	...	0 2 10	0 3 10

English twist between 30's and 200's had a monopoly of the Dacca market after 1840, and the little local manufacture that continued in the place was only in articles below 30's. Thus, in the space of 30 years the trade of Dacca with England, which amounted to many hundred thousands of rupees, became extinct, and the spinning of thread, the occupation of almost every family in the district, was abandoned. The arts of spinning and weaving which afforded employment to a numerous and industrious population in the course of half a century passed to England, which supplied the wants not only of the foreign nations but also of India herself.

The real cause of the turning of the tables of England supplying cotton goods to India must be attributed to the inventions of the spinning machine and the power loom, followed later by the steamship and construction of railways in India, but it would be idle not to admit that the pace of the defeat of Indian competition had not been accelerated by the protective duties which had been established in England against Indian cotton goods. In Wilson's "History of India," Vol. I, page 385, we have information which, in face of the discussions in connection with recent Indian tariff legislation, is illuminating. He says: "It was stated in evidence that Indian goods could be sold for profit at a price from 50 to 60 per cent. lower than those fabricated in England. It consequently became necessary to protect the latter by duties of 70 or 80 per cent. on their value, or by positive prohibition. Had not such prohibitory duties and decrees existed the mills of Paisley and of Manchester would have been stopped at the outset and could scarcely have been set in motion, even by power of steam."

By 1858, India's exports of *raw cotton* had reached the formidable amount of £4,301,768; the exports of Indian manufactured goods represented only £809,813, whilst India received from England cotton goods of the value of £5,626,618. The English goods also supplanted Indian goods in other markets and thus the once great Indian cotton manufacturing industry was almost reduced to the supply of cloth for purely domestic needs. It cannot be said that even to-day the Indian hand-loom industry has been vanquished by the power looms, for we still have some 2,000,000 hand looms in India which at certain times of the year are kept busy, supplying about 26 per cent. of the nation's requirements of cotton cloth.

The actual causes of India's loss of trade were realized even in the early part of the nineteenth century by Englishmen who conceived the idea of establishing a modern power mill in 1817, on the banks of the Hoogly, near Calcutta. It was called the "Bowreah Mill," and its successor is still in existence. In 1851, a mill was established by the English in the best cotton-growing district of India, namely Broach, and 1854 saw the first cotton-spinning mill being erected in Bombay. Since then progress in mill building has been rapid; besides Englishmen, many Parsees, Hindoos and Mohammedans erected mills in India, and Bombay became the prominent mill centre, owing to its advantage of shipping facilities and moist atmosphere. A very important export trade to China in yarns was established, several mills being specially fitted up for producing yarns for China. Bombay

had further the advantage of being the concentration point of raw cotton for shipment to all parts of the world, and thus the Bombay mills had the pick of the cotton produced in India. The progress of the mill industry is seen from the following tables compiled by the Bombay Mill Owners' Association.

PROGRESS OF INDIAN MILLS DURING THE PAST 54 YEARS.

Years ending June 30	No. of Mills	No. of Spindles	No. of Looms	Average No. of Hands employed daily	Approximate quantity of Cotton consumed	
					Cwts.	Bales of 392 lbs.
1876	47	1,100,112	9,139	Not stated	Not stated	
1877	51	1,244,206	10,385	"	"	
1878	53	1,289,700	10,533	"	"	
1879	56	1,452,794	13,018	42,914	936,547	267,585
1880	56	1,461,590	13,502	44,410	1,076,708	307,631
1881	57	1,513,096	13,707	46,430	1,326,461	378,989
1882	65	1,620,814	14,172	48,467	1,391,467	397,562
1883	67	1,790,388	15,373	53,476	1,597,946	456,565
1884	79	2,001,667	16,262	60,287	1,859,777	531,365
1885	87	2,145,646	16,537	67,186	2,088,621	596,749
1886	95	2,261,561	17,455	74,383	2,251,214	643,204
1887	103	2,421,290	18,536	76,942	2,541,966	726,276
1888	114	2,488,851	19,496	82,379	2,754,437	786,982
1889	124	2,762,518	21,561	91,598	3,110,289	888,654
1890	137	3,274,196	23,412	102,721	3,529,617	1,008,462
1891	134	3,351,694	24,531	111,018	4,126,171	1,178,906
1892	139	3,402,232	25,444	116,161	4,080,783	1,165,938
1893	141	3,575,917	28,164	121,500	4,098,528	1,171,008
1894	142	3,649,736	31,154	130,461	4,278,778	1,222,508
1895	148	3,809,929	35,338	138,669	4,695,999	1,341,714
1896	155	3,932,946	37,270	145,432	4,932,613	1,409,318
1897	173	4,065,618	37,584	144,335	4,553,276	1,300,936
1898	185	4,259,720	38,013	148,964	5,184,648	1,481,328
1899	188	4,728,333	39,069	162,108	5,863,165	1,675,190
1900	193	4,945,783	40,124	161,189	5,086,732	1,453,352
1901	193	5,006,936	41,180	172,883	4,731,090	1,351,740
1902	192	5,006,965	42,584	181,031	6,177,633	1,765,038
1903	192	5,043,297	44,092	181,399	6,087,690	1,739,340
1904	191	5,118,121	45,337	184,779	6,106,681	1,744,766
1905	197	5,163,486	50,139	195,277	6,577,354	1,879,244
1906	217	5,279,595	52,668	208,616	7,082,306	2,023,516
1907	224	5,333,275	58,436	205,696	6,930,595	1,980,170
1908	241	5,756,020	67,920	221,195	6,970,250	1,991,500
1909	259	6,053,231	76,898	236,924	7,381,500	2,109,000
1910	263	6,195,671	82,725	233,624	6,772,535	1,935,010
1911	263	6,357,460	85,352	230,649	6,670,531	1,905,866
1912	268	6,463,929	88,951	243,637	7,175,357	2,050,102
1913	272	6,596,862	94,136	253,786	7,336,056	2,096,016
1914*	271	6,778,895	104,179	260,276	7,500,941	2,143,126
1915*	272	6,848,744	108,009	265,346	7,359,212	2,102,632
1916*	266	6,839,877	110,268	274,361	7,692,013	2,197,718
1917*	263	6,738,697	114,621	276,771	7,693,574	2,198,164
1918*	262	6,653,871	116,484	282,227	7,299,873	2,085,678
1919*	258	6,689,680	118,221	293,277	7,154,805	2,044,230
1920*	253	6,763,076	119,012	311,078	6,833,113	1,952,318
1921*	257	6,870,804	123,783	332,179	7,420,805	2,120,230
1922*	298	7,331,219	134,620	343,723	7,712,390	2,203,540
1923*	333	7,927,938	144,794	347,380	7,530,943	2,151,698
1924*	336	8,313,273	151,485	356,887	6,712,118	1,917,748
1925*	337	8,510,633	154,202	367,877	7,792,085	2,226,310
1926*	334	8,714,168	159,464	373,508	7,396,844	2,113,384
1927*	336	8,702,760	161,952	384,623	8,460,942	2,417,412
1928*	335	8,704,172	166,532	360,921	7,034,237	2,009,782
1929*	344	8,807,064	174,992	346,925	7,564,081	2,161,166

* Year ending August 31.

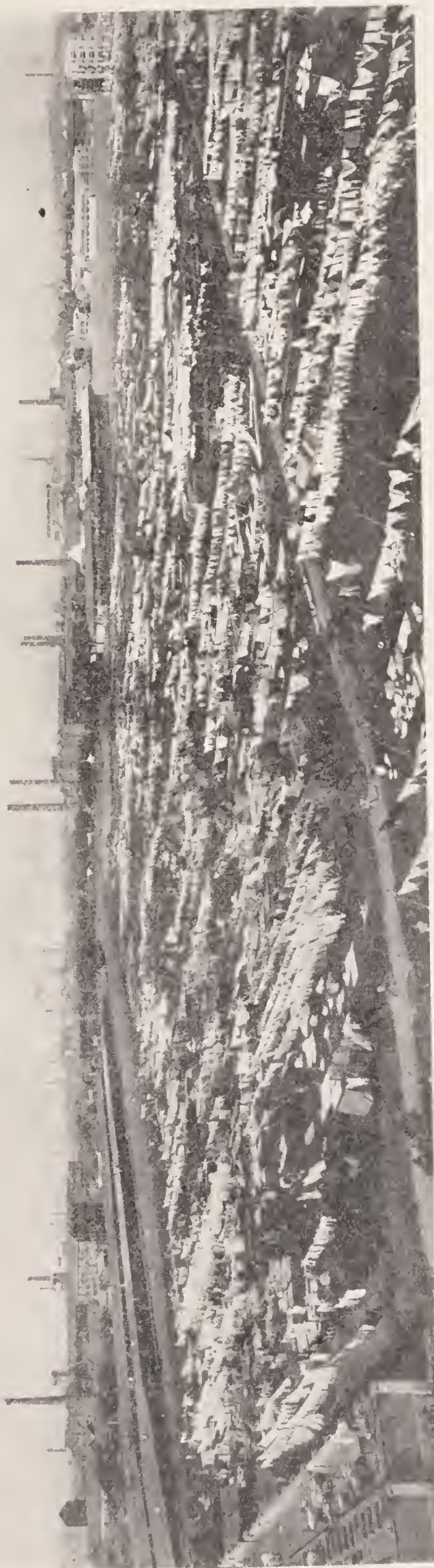


Photo by "Indian Textile Journal."

The Principal Mill Quarter of Bombay.

In the foreground on the left will be seen the method of washing, and to the right is the drying ground. The washing is done by means of slashing the clothes on cement slabs, which, of course, ruins them very rapidly. It may be said that this picture shows in the background the place where the cotton cloth is manufactured, and in the foreground where it is being ruined. The Indian dhobi (washerman) is the best friend of the Indian cotton mill industry.

The increase in the number of looms during recent years is more remarkable than that of the number of spindles.

The yarn and cloth production of the Island of Bombay is as follows :—

				Percentage of Yarn Cloth production production	
1908-09	..	..	..	54·3	55·2
1913-34	..	..	..	52·0	50·7
1918-19	..	..	..	49·7	52·2
1921-22	..	..	..	50·3	53·2
1924-25 (strikes)	..	..	..	45·5	50
1925-26	..	..	..	38·2	44·6

During the last twenty years the development has been largely up-country, and the tendency is that Bombay will lose more and more her supremacy, but in view of her favourable geographical position it is certain that the mills existing in Bombay will be forced to spin finer counts, using African, American, or even Egyptian cotton, and they will probably develop the export trade.

GEOGRAPHICAL DISTRIBUTION OF THE COTTON MILLS OF INDIA ON AUGUST 31, 1929.

Where situated	No. of Mills	No. of Spindles	No. of Looms	Average No. of Hands daily employed	Approx. quantity Cotton consumed Cwts.	Bales of 3½ cwts.
Bombay Island (a)	81	3,447,433	76,375	106,710	2,208,423	630,978
Bombay Presidency (b)	130	2,503,765	56,332	107,505	2,242,996	640,856
Bombay Presidency (c)	8	—	—	—	—	—
Total ..	219	5,951,198	132,707	214,215	4,451,419	1,271,834
Rajputana ..	5	57,536	1,033	2,641	96,845	27,670
Berar ..	4	64,720	1,328	3,628	78,918	22,548
Central Provinces ..	8	298,012	5,777	19,020	398,734	113,924
Hyderabad (Nizam's Territory) (d)	5	103,524	1,620	3,841	87,206	24,916
Central India (e)	15	268,154	7,547	15,608	404,502	115,572
Bengal Presidency (f)	17	358,336	4,134	13,765	308,364	88,104
Punjab (g)	9	134,538	3,331	6,627	198,723	56,778
U. P. of Agra & Oudh (h)	25	661,824	8,564	23,998	585,074	167,164
Madras Presidency (i)	28	693,844	5,264	31,098	743,113	212,318
Mysore (j)	5	133,514	1,840	7,013	139,139	39,754
Pondicherry ..	3	71,994	1,777	5,471	72,044	20,584
Burma (k)	1	9,920	—	—	—	—
Total ..	*344	†8,807,064	†174,922	346,925	7,564,081	2,161,166

† The spindles and looms of the 18 mills in course of erection are not included.

* Of these 295 mills were working ; 31 mills were not working ; and 18 mills in course of erection.

(a) Five mills were not working ; (b) 11 mills were not working ; (c) all the mills in course of erection ; (d) one mill was not working ; (e) 3 mills in course of erection and 1 mill was not working ; (f) 2 mills are in course of erection and 4 mills were not working ; (g) 3 mills were not working ; (h) 2 mills were not working and 1 mill in course of erection ; (i) 4 mills in course of erection and 2 mills were not working ; (j) 1 mill was not working ; (k) 1 mill was not working.



Hand Spinning and Hand Weaving

The enormous importance of this domestic industry is not sufficiently realized. It is estimated that there are in India intermittently at work 50,000,000 spinning wheels ("charkas"), which yield about 48 lbs. of yarn per spindle per year, and almost 2,000,000 hand looms.



Photo by B.C.G.A. (Punjab), Ltd.

Hand Spinning, Sizing and Weaving

Though the industrial cotton spinner will argue that with the existence of modern machinery it is a waste of valuable time to endeavour to spin by hand in competition with the machine, he ought to consider that there are in India some two hundred million people who have absolutely no occupation in between the agricultural seasons, say for three to four months, and even during the rest of the year they have a great deal of leisure. As these people have no school education, it is difficult for them to occupy their mind and body in any other way but by spinning or weaving, which, as we have shown in the first chapter of this book, was the principal industry of the country. It has still survived to such an extent that spinning and weaving is undoubtedly regarded as the second largest industry, spread over the whole of the country. Spinning and weaving in the East is analogous to knitting in the West. It means that the waste of time is turned into work and into some wealth, reducing simultaneously exportation of capital. This domestic industry has the further advantage that it provides a prime necessity of life, it is easily learnt and suitable for men, women and children. It offers scope for skill and art and prevents the brain and body from getting stale.

Mahatma Gandhi has placed himself at the head of an organization to popularize the use of the spinning wheel, and has been to some extent successful. Improvements have been made in the spinning wheel, and money prizes are offered for further improvements. The difficulty at present is to find a suitable spindle, which will not warp. For the spinning of fine counts the spindle has to be thin. The wheel on which Mr. Gandhi was spinning whilst I interviewed him was not much thicker than a coarse knitting needle; he was spinning about 25's from Indian cotton.

The cloth woven on the hand looms for personal use is of coarse counts, easily recognized by the unevenness of the yarn, but it has the advantage of resisting the primitive method of washing in India, in short the wearing qualities of the homespun and woven cloth are recognized by the people, and the agitation for a more general use of this kind of cloth, called "khadar," has certainly spread. The effect of the frequent boycotts is that large numbers of the population, though they may not be entirely in sympathy with Gandhi's movement, are forced to wear coarse cloth because it has become a "Nationalist" measure, and few can afford to risk their reputation by ignoring the dictates of a "patriotic" movement. There is, of course, not sufficient "khadar" obtainable, consequently the mills have tried to imitate it on the machines, and they have succeeded very well indeed. The falling-off in the use of fine counts is reflected in the imports of fine counts, as shown in the later chapter on Imports and Exports. Every boycott will have a tendency to broaden the use of coarse cloth, and this will cause a lesser consumption of the high counts of yarn supplied so far by England.

HAND SPINNING AND HAND WEAVING

27

The hand looms supply about 26 per cent. of the total consumption of cloth of India, according to the "Noyce" Report of 1927. The importance of this industry, which is far from dying out, is shown in the following table, which compares hand-woven mill production in India and imports:—

1921	1922	1923	1924	1925	1926	
1148	1190	1341	1005	1256	1160	million yards hand-loom woven.
1954	1970	1702	1725	1732	1581	million yards mill production in India.
1529	1710	1374	1467	980	1405	million yards foreign cloth imported.

According to the Bombay Mill Owners, the consumption of Indian mill-spun yarn by the hand looms was during the last three years as follows:—

					Million lbs.
1925-26	...	...	...	...	283
1926-27	...	...	...	...	324
1927-28	...	...	...	...	323

The hand looms are distributed over the whole of India as is shown from the following table:—

Provinces.						Number of looms.
1 Ajmer	...	...	...	...	...	1,587
2 Assam	...	...	...	...	...	421,367
3 Bengal	...	...	...	...	...	213,886
4 Bihar and Orissa	...	...	...	...	...	164,592
5 Burma	...	...	...	...	...	479,137
6 Delhi	...	...	...	...	...	1,667
7 Madras	...	...	...	...	...	169,403
8 Punjab	...	...	...	...	...	270,507
9 Baroda	...	...	...	...	...	10,857
10 Hyderabad	...	...	...	...	...	115,434
11 Rajputana	...	...	...	...	...	89,741
Total						<u>1,938,178</u>

During the recent period of resuscitation of the hand loom, the fly shuttle has been introduced in many parts.

Hand-loom weaving is the sole support of a certain class of weavers in practically every province, particularly in the large urban centres. Their income is stated to be 5 to 6 rupees per week.

The looms are all made locally, only the shuttles are imported from England, but even these are beginning to be made in some parts of Bengal and Madras.

The counts spun are mostly from 7's to 20's, but in Southern India yarns of medium counts are produced. The Indian mill yarn, spun purposely for this domestic hand-loom industry, is generally made half a count above the even number, thus we find $10\frac{1}{2}$, $16\frac{1}{2}$, $20\frac{1}{2}$. This extra half is said to be commission for the intervening agents.

In Southern India mostly dyed yarns are used in the hand-weaving, and natural indigo was employed extensively, but, lately its place has been taken by artificial indigo and sulphur colour. Turkey-red yarn is imported mostly from England, although a small quantity is dyed in the Bombay mills.

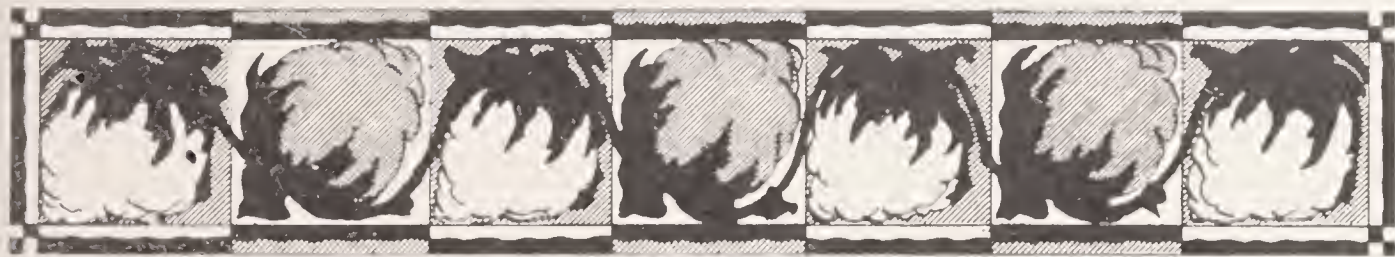


The hereditary weavers still adhere to the old-fashioned pit looms, but those who have recently adopted weaving as an occupation, either main or subsidiary, use hand looms with fly shuttle. From Southern India it is reported that hand-loom weavers cannot compete against products made of yarns between 20's and 80's; therefore the cloth is made of yarns either below or above these counts.

In many districts there are weavers' co-operative societies which buy the yarn and sell the cloth. In some parts there are in existence factories containing only hand looms.

The more the cost of weaving in the Indian mills is reduced, the quicker the hand-loom industry of India will disappear. Neither hand-loom spinning nor hand-loom weaving can compete with factory organization, but we must remember that as the mass of the people has no school education, they cannot occupy themselves at all during the long periods when their labours in the field have come to an end. When a stage of civilization has been reached where these people can find some more remunerative employment than hand-loom spinning and weaving, this industry will die out, except perhaps where highly artistic designs are produced, as is the case in Japan.





Raw Cotton

The visits which the writer paid in 1909/10, 1911/12, and 1913/14 to India had for their main purpose the co-ordination of the activities of the various provincial Departments of Agriculture, the general education of Indian and home officials to the recognition of the importance of the improvements of quality and of the increase in the quantity of the cotton crops of India; at the same time they aimed at extending the use of Indian cottons amongst the members of the International Cotton Federation.

The Committee of the International Cotton Federation submitted their views which were the outcome of these journeys to various Secretaries of State for India, and published in large editions reports on these journeys, which have undoubtedly contributed towards obtaining the objects for which these journeys were undertaken.

When I first visited Bombay, twenty years ago, all the cotton was stored in the open, on what is known as the Cotton Green, at Colaba. This was selected on account of the facilities of shipping which it afforded. It was established as far back as 1884, before the construction of railways. At that time it could not have been foreseen what evolution the railways were going to make and that the spinning and weaving mills would establish themselves at the opposite end of the island. For two generations all the cotton had to be hauled by bullock carts through the entire length of the city. As far back as 1894 it was recognized that this primitive method of handling the cotton could not go on. Finally a Commission was appointed which decided to reclaim land from the sea. This reclamation was carried on between 1907 and 1913, and thus 571 acres were added to the area of Bombay Island. On this are accommodated not only the new cotton warehouses, but also those for grain, seeds, manganese, iron, etc., in addition to railway and Government stores. The total cost of the 178 cotton warehouses was 16,300,000 rupees.

Indian Central Cotton Committee. Towards the end of the war the necessity for the establishment of a permanent department for the direction and co-ordination of the work carried on in cotton growing in India was felt; a Commission was appointed before which several members of the International Cotton Federation gave evidence, and the outcome was the formation, in 1921,

of the Indian Central Cotton Committee, with permanent offices in Bombay.* Besides devoting attention to the scientific measures of improving and extending Indian cottons, this Committee also watches over the handling and marketing of the cotton. Through the activities of the the Indian Central Cotton Committee several improvements in the staple have been effected, and as a very notable result of the practical work in connection with the handling of cotton it may be cited that the introduction of legislation prescribing the marking of the hoops or canvas with the source of origin (press) was brought about. Through the instrumentality of the Indian Central Cotton Committee the mixing of cotton in certain districts has also been made a penal offence, and the transportation of seed cotton from one region to another where it was used for mixing purposes has now been prohibited by law.

Reference to the very excellent research laboratories of the Indian Central Cotton Committee will be found in later pages (44 to 48).

Watering of Cotton. Some of the readers will remember that in the previous reports of the present writer photographs of watering cotton were shown and details were collected on this malpractice. It is unfortunately true that this artificial watering of cotton has increased rather than diminished. New evidence collected shows that several pressing establishments have inserted in the willow machine, through which the cotton passes before pressing, a steam jet through which steam exudes constantly whilst the cotton is being loosened in the willow. In the Amraoti district of Berar the hosepipe, which was illustrated in our previous reports, is still being used at night, and in the Western districts where, in consequence of the prohibition of mixing varieties, farmers pretend to have suffered some loss, they and the cotton buyers, unable to make an extra profit through the malpractice of mixing, have resorted to an extensive system of damping in order to get even.

The following are some specific cases of damping which have come to my notice:—

Central Provinces of Berar. Wardha. “There are two cotton merchants who damp cotton before pressing, with a view to increasing the weight of each bale by 12 to 14 lbs. One of these merchants is a Japanese, the other a Hindoo.”

Central Provinces and Segaom. “The custom has been established here and elsewhere at every cotton centre of sprinkling water over loose ginned cotton before pressing. All dealers, whether Europeans, Japanese or Indians, follow this practice.”

Malkapur and Berar. “Cotton had to be rejected owing to patches of water-damaged cotton.”

Bombay Presidency, Southern Division. “In the Carnatic, in places like Hubli, Dharwar, Gadag, Bijapur, Bagalkot, etc., until 1928 watering was unknown, but this year every purchaser has been watering cotton freely.”

* The organization is maintained through the payment of 2 annas per bale of cotton, whether exported or consumed in India. Until 1926 this levy was 4 annas per bale, but since sufficient funds have accumulated it has been reduced to half.

Bellary. "Big merchants are watering the cotton and are also mixing."

Cotton from the following places had to be rejected during 1927/28 season, on account of damage through excessive water :—

Akote, Dakore, Warud, Vadsala (Baroda), Viramgam, Dabhoi (Baroda), Antroli (Baroda), Miyagam, Ahmednagar, Khamgam, Harpur (Punjab), Kasur (Punjab), Amritsar, Panipat (Punjab), Kasur (Punjab).

Documentary evidence of watering which has taken place in the above places was shown to me.

In making enquiries from cotton merchants as to the extent of damping, everyone assured me that his firm had not resorted to this method, but that all the competitors were using water in order to increase the weight of cotton, and thus obtain an unfair advantage. Only one Japanese cotton merchant candidly acknowledged that he also gave "at times" instructions to water the cotton prior to pressing; he stated frankly that if he did not do so his cotton would always be too dear, and according to his experience the spinner does not object to some "slight" watering. The merchants blame the spinners for this malpractice. They say, with some justification, that the spinner always regards the price as the main factor, and the one who makes the lowest offer gets the business. The spinner does not pay sufficient attention to the reputation of the firm from which he buys the cotton, and does not bear in mind that the addition of water may make all the difference between the prices from a reliable house and from one of a doubtful reputation. Though the cotton may lose some of the artificially added moisture in transit, there is no doubt that watering spoils the staple and increases the waste in spinning. It is also very likely that fires occur through spontaneous combustion when cotton that had been damped is exposed to severe heat either on the Bombay Cotton Green or on board of ships. It has been scientifically ascertained that gases form within the 4 ins. of the outer covering of the bale, and one of the explanations of the fires that have taken place on the Bombay Cotton Green, where during the dry season frequently half a million bales are stored in the open, is that this gas ignites through the slight friction of the hoops brought about by their contraction and expansion, due to the climatic changes.

As far back as 20 years ago the International Cotton Federation tried to induce the Indian Government to introduce legislation making the watering of cotton a penal offence; we suggested such a measure to the Secretary of State of India, but we were referred to the Bombay Cotton Fraud Act, which had to be given up 50 years ago, after a few years of experiment, on account of bribery and corruption. The Indian Central Cotton Committee has also given this matter considerable attention, but they have come to the conclusion that the carrying-out of such an Act in a huge country like India would require a vast army of inspectors, and they again would need supervising, for bribery in the East is of more frequent occurrence than in the West. In the East the acceptance of what we would call a bribe is not regarded as a serious offence. It is thought that for the present it would suffice if spinners were to pay more attention to the amount of water they find in the cotton,

noting the difference of the water contained in the cotton shipments from the respective pressing establishments. Complaints as to excessive moisture in cotton should always be made direct to the Secretary of the Indian Central Cotton Committee, Vulcan House, Ballard Estate, Bombay. Particulars of the marks on the hoops or on the canvas showing the source of origin of the cotton should be sent, together with the result established by the official testing house. Although it will not be possible to claim money allowances through the Indian Central Cotton Committee, yet the accumulation of facts will help the Committee to take action. The writer was present at one of the meetings of the Malpractice Subcommittee of this organization, and he can assure spinners that complaints are carefully examined and offending parties are brought to book. As the Committee consists of merchants, spinners, cotton factors, etc., it goes against the reputation of a firm if such complaints are repeatedly brought before this body. My personal advice is, therefore, to report all cases of malpractice to the Indian Central Cotton Committee at Bombay. The arbitration awards of the European Cotton Exchanges are not anything like a sufficient redress to the spinner for these shortcomings, and therefore the spinning industry must aim at getting the cause remedied at the source. This can only be done through the official body, viz: the Indian Central Cotton Committee.

The Native State of Hyderabad, which produces one million bales of cotton a year, has recently introduced legislation making the watering of cotton and other malpractices a penal offence. This large Native State, roughly the size of France, has instituted a licence for each ginner, and this licence is withdrawn in cases of such offences as watering of cotton, mixing, etc. The terms of the licence are as follows:—

FORM OF LICENCE FOR GINNING AND PRESSING FACTORIES
GIVEN UNDER SECTION 63 OF THE HYDERABAD FACTORIES
ACT.

Name Father's name

Caste Residence

Present address District

By this licence you are being permitted, in accordance with Section 63 of the Hyderabad Factory Act, to work the cotton ginning/pressing factory, the details whereof are given in Schedule No. 1 at..... District....., on the following conditions:—

1. Except with the general or special permission of Government long-stapled cotton shall not be mixed with cotton of shorter staple.

2. No water shall be added to any cotton either before, during or after ginning or pressing it, with the intention of increasing its weight, nor shall cotton-seed be retained in the ginned cotton beyond what is normal in such cotton, nor shall cotton-seed be added to ginned cotton, nor shall any bale or cotton be "false-packed" with the object of making it appear to be of different quality from that of which it actually consists.

3. A register shall be maintained on the premises in the Form A attached herewith containing a record of all cotton ginned in the factory and of the names of persons for whom and the date on which the cotton has been ginned, and of the amount ginned for each person.

4. A register shall be maintained on the premises in the Form B attached herewith containing a daily record of the number of bales pressed in the in the factory, the serial number of each bale, and the name of person for whom it has been baled

5. Every bale pressed shall be marked before it is removed from the press house, in the manner prescribed by Government, with a serial number and with the mark allotted to the factory by the Government in Commerce and Industry Department.

6. No register maintained under this licence shall be destroyed until after expiration of three years from the date of the last entry therein.

7. Weekly returns in the Form C attached herewith shall be submitted to the Director, Commerce and Industries, by all cotton presses, showing the total number of bales of cotton pressed during the preceding week and from the commencement of the cotton season to the end of that week and the approximate average weight of the bales pressed in that week. These weekly returns shall be filled up each Sunday morning and despatched direct to the Director, Commerce and Industry, without fail on the same day. The registers shall be maintained in Urdu or English. The cotton season begins on September 1 and ends on August 31, and returns shall be submitted from the beginning of the season until the factory closes down.

8. The Committee of any cotton market established by any order of Government or under any law shall control all weighments of or dealings in cotton prior to ginning for or in the factory, and shall itself, or through its authorized agents, have access to the factory compounds for this purpose. The factory shall use only such weights and scales as are authorized by Government or by the Committee, and shall allow no reductions to be made or fees to be levied except in accordance with scale prescribed by the Committee or by the authority of Government. Weighment shall be made only by weighmen licensed or employed by the Committee, and the factory, in purchasing cotton or in ginning on commission, shall have no dealings save with brokers or *adatyas* licensed by the Committee. The factory shall maintain such records of weighments and dealings as may be prescribed by the Committee.

9. All monetary transactions within the Dominions shall be conducted in Halli Sicca currency.

10. If the owners of companies or their servants are Europeans or Americans, they shall be amenable to the jurisdiction of His Exalted Highness the Nizam's Court in civil cases, and in criminal cases to the Court of the Justice of the Peace specially appointed by the Government of His Exalted Highness the Nizam for the trial of Europeans and Americans.

11. This licence shall be renewed every year before July 1 (8th Sharewar).

12. The factory will be liable to inspection by the Inspector appointed under the Hyderabad Factories Act, by District Talukdars, the boiler inspector, or any other officers specially authorized by Government in this behalf.

13. In the event of any contravention of any condition of this licence the owner or occupier of the factory will be liable to the cancellation of this licence for the whole season or such portion of it as is deemed fit by the Director-General, Commerce and Industry Department.

In all Native States the introduction of legislation of this kind

is much easier than in British India, owing to the absence of severe opposition. The working of this Act is being watched with great interest throughout India, and probably other Native States will make the ginning and pressing subject to the terms of a similar licence. When this licensing of ginneries and pressing establishments in the Native State has become more general, it will be easier for the Government of British India to take action.

False Packing and Mixing. At the Barcelona International Cotton Congress a resolution was adopted asking that the mixing of different kinds of cotton in the Punjab-American District should be stopped.

The South German spinners have repeatedly complained of oil stains and of false packing, particularly additions of seed, etc., in cotton coming from the Sind district. Whilst I was in India the following complaints have come to my notice:—

Bellary. (Mixing), Khanna, false-packed cotton contained oily cotton, dirty cotton, and waste. One bale contained sand and earth. *Maklapur* (Mixing). *Bagalkot*, false packing. *Mian Channu*, Punjab, false packing. *Rajpipla* cotton mixed with Goghari. *Kumpta* cotton mixed with saw-ginned Dharwar. *Amritsar*, mixing with packings. *Barla* (Gujerat), false packing. *Kumpta Dharwar area*, seed cotton mixed with Fly, etc. General complaint.

At the meeting of the Indian Central Cotton Committee which I attended I took the opportunity of pointing out that particularly Sind cotton frequently contained oil stains and nests of particles of seed, at times even quantities of seed, such as has been repeatedly the cause of complaint on the part of the German "two-cylinder" spinners.

Size of Crops. It is very satisfactory that the size of the Indian cotton crop since 1909, when our organization first took an active part in its extension, has increased by almost 50 per cent. This addition has been obtained mainly through a larger acreage, and less through higher yields per acre. It is in this direction that great advances are still possible, for it should not be beyond the means of the staff of the Departments of Agriculture to obtain higher yields through seed selection and introduction of improved methods of cultivation (particularly in the latter direction there is ample room for improvement), and with the gradual education of the country it should be easily possible to add to the present yield of about 90 lbs. some 25 per cent., for even in U.S.A., where cotton farmers are probably the most careless of cultivators in the world, the yield is almost twice as large as in India. In this connection it is instructive to compare the increases in the yields which have already taken

place. The outturn per acre according to the Government figures was as follows:—

1910/11 68	1911/12 61	1912/13 80	1913/14 81	1914/15 85	1915/16 84 lbs.
1916/17 83	1919/18 64	1918/19 76	1919/20 99	1920/21 68	1921/22 97 lbs.
1922/23 87	1923/24 91	1924/25 87	1925/26 81	1926/27 94	1928/29 92 lbs.

The cotton crops of India are set out in the accompanying table:—

THE COTTON CROPS OF INDIA, FROM 1925-26 TO 1929-30.

Province or State	—1929-30—		—1928-29—		—1927-28—		—1926-27—		—1925-26—	
	Area (1,000 acres)	Yield (1,000 bales)	Area (1,000 acres)	Yield (1,000 bales)	Area (1,000 acres)	Yield (1,000 bales)	Area (1,000 acres)	Yield (1,000 bales)	Area (1,000 acres)	Yield (1,000 bales)
Bombay (a)	6,538	1,090	7,367	1,358	7,763	1,801	6,914	1,289	8,117	1,566
Central Provinces and Berar	5,167	1,127	5,078	1,224	4,796	1,235	4,864	977	5,385	908
Madras (a)	2,467	512	2,394	519	2,123	447	2,231	388	2,921	569
Punjab (a)	2,496	777	2,841	619	2,067	602	2,803	599	3,052	908
United Provinces (a)	932	289	715	255	643	199	809	258	1,004	277
Burma	323	67	318	56	326	67	447	73	464	83
Bengal (a)	78	21	78	18	78	20	77	25	166	61
Bihar and Orissa (b)	69	13	79	14	77	14	79	14	82	15
Assam	44	15	44	17	45	15	46	15	47	13
Ajmer-Merwara ..	34	11	44	21	42	14	43	15	54	17
North-West Frontier	17	4	17	4	11	2	30	5	32	7
Delhi	3	1	2	1	2	1	4	1	6	1
Hyderabad	3,531	1,018	4,002	994	3,631	951	3,267	808	3,781	1,060
Central India	1,393	246	1,287	252	1,263	234	1,297	223	1,369	270
Baroda	771	127	793	68	806	124	761	124	866	189
Gwalior	663	89	645	107	585	115	649	107	651	116
Rajputana	506	104	476	123	422	97	404	78	411	93
Mysore	69	22	76	23	81	25	97	25	83	25
Total	25,121	5,533	26,256	5,673	24,761	5,963	24,822	5,024	28,491	6,250

We may reckon now with a cotton crop of 6,000,000 bales under normal conditions. The following figures show the gradual increase that has taken place:—

1904/05 3,791,000	1905/06 3,416,000	1906/07 4,934,000	1907/08 3,122,000	1908/09 3,692,000
1909/10 4,718,000	1910/11 3,853,000	1911/12 4,610,000	1913/14 5,065,000	1914/15 5,209,000
1915/16 3,738,000	1916/17 4,502,000	1917/18 4,000,000	1918/19 3,972,000	1919/20 5,976,000
1920/21 3,600,000	1921/22 4,485,000	1922/23 5,073,000	1923/24 5,161,000	1924/25 6,088,000
1925/26 6,250,000	1926/27 5,024,000	1927/28 5,963,000	1928/29 5,673,000	1929/30 5,533,000

These are the Government figures, but it is generally admitted that they are mostly an under-estimate of the crop.

The following table shows the commercial classification of the Indian Cotton Crops:—

Extension of Cotton Area. Irrigation works have been extended in the Punjab and during the last few years the largest irrigation works in the world are being constructed in Sind, known by the name of the *Lloyd Barrage*. It is evident that the success or failure of so large a project must be of great importance not merely to Sind and the entire Bombay Presidency, but to the whole of India. The Government of India is advancing the necessary funds to the Bombay Government for the construction of the Barrage, the total cost of which has been estimated



Lloyd Barrage, Sind.

Aerial photograph taken in January, 1930, showing piers of 39 spans (16 on the right bank and 23 on the left bank). In the centre of the river is the Cofferdam, for completing the remaining 27 spans.

On the two banks are also the head regulators of the seven canals, four on the left and three on the right bank. They are not yet joined up to the excavation of their respective canals.

to be over 15 million pounds sterling. Work was started in July, 1923. On the actual Barrage work is now at an advanced stage, as shown in the accompanying photographs. It is expected to be completed in 1932. The total length of the main canals, channels and distributories to be constructed is 6,211 miles, of which 1,300 miles, comprising chiefly the largest section of the main canals, have been so far completed. The irrigable area commanded by the Barrage will be 7,500,000 acres, of which the canals are designed to work 5,000,000 acres annually on attainment of final development. The present irrigation in this area extends to 2,030,000 acres and the new irrigation provided for will therefore add more than 3,800,000 acres. Certain districts of Sind, which

have come under the scheme, are known to have alkaline soils.

The Lloyd Barrage is situated about three miles downstream from the Sukkur Gorge. The area on the left bank is to be a cotton area, the agricultural organization of which is based on one irrigated crop in three years, which seems to be very small. It is anticipated that under the new conditions the total area under cotton will rise from 300,000 to 800,000 acres. If the existing indigenous cotton variety were increased in this proportion, there would arise a glut in its own market, and it is therefore probable



Lloyd Barrage, Sind.

Aerial photograph taken in January, 1930, showing the piers of the 23 spans of the barrage on the left bank and four head regulators of the main canals taking off on the left bank.

that American cotton will be the main variety grown. Some 20 years ago experiments were made with Egyptian and American cotton under partial irrigation in this district. The water failed, however, and the results were not conclusive. New experiments with both kinds are to be undertaken at once, but it is probable that preference will be given to American cotton, for which the mills in India have a wider use.

It may be as well not to be too sanguine as to the immediate results emanating from the Lloyd Barrage. Many years will elapse before the full area is under cultivation. At present the country is sparsely populated. The Sindis have so much land that they have been able to leave their fields fallow for five years. When water comes on the land they will have to set to and bring forth two crops per year on a field. This means, of course, a

complete reorganization of their hitherto very primitive methods of cultivation. Some of the Sindis are nomads and they will have to settle down to regular and intensive farming methods. There are many Punjabis, sturdy fellows, accustomed to cultivation by means of irrigation in their own country in the North-west of India, anxiously waiting to see the irrigation works finished in Sind, so that they may settle there, but their arrival will not be very welcome to the original owners of the land.

The following remarks are taken from a series of articles published by the Director of Agriculture, Bombay Presidency, Dr. T. F. Main, in the *Daily Gazette*, Karachi, and other Sind newspapers:—

“The caprice of the Indus has governed the country like an absolute despot. For the first time in the history of Sind the Indus is to be harnessed. In future it will serve, not rule.

From these considerations one might be led to infer that the new system will confer unlimited benefits upon the country, and that the only effect will be prosperity based on security ensuring stable agricultural conditions and eliminating all anxiety from the agriculturist, whose life will become one of ease and luxury.

This is far from true. If this new system is not to bring evil in its path the agriculturists of Sind must brace themselves to greater efforts. Perennial irrigation demands a much higher standard of intelligence and a much greater outflow of physical energy than do the old haphazard conditions. The lazy man will soon become supplanted by his more vigorous neighbour.”

Population always follows water, but this enormous reorganization will take time and we must not expect to see an immediate large increase as the result of these huge irrigation works. Sind has often been likened to Egypt, and perhaps with justification, but yields of 350 lbs. lint cotton, as we are accustomed to see in Egypt, will not be produced in Sind. Land, on the other hand, will not cost a tenth part of that ruling at present in Egypt, and daily labour will also be less.

The International Cotton Committee in 1913 advocated before the Secretary of State for India the construction of these irrigation works in Sind, and they will be very pleased if the work undertaken will bear rich fruit.

Quality. The following particulars show the source of origin of the generally accepted *trade descriptions* of Indian cottons:—

Descriptions	Districts	Chief Stations
BENGAL	United Provinces ..	Aligarh, Bhind, Cawnpore, Chandausi, Dibai, Etawah, Hardoi, Hathras, Kashipur, Saharanpur, Amballa, Khurja, Kasganj, etc.
	Rajputana	Chitorgarh, Beawar, Bhilwara, Kishengarh, Kekri, Nasirabad, Gulabpura, etc.
	Sind, Punjab ..	Amritsar, Hansi, Kasur, Khanna, Multan, Nabha, Tando-Adam, Sirhind, etc.
COMMILLA	Eastern Bengal ..	Chittagaon Hill Tracts and Assam.
PUNJAB-AMERICAN ..	Punjab	Abohar, Gojra, Lyallpur, Jaranwalla, Okara, Sarghoda, Tobateksingh, Pattoki, Pindi-Bahauddin, Khanewal, Montgomery, Mianchanu, etc.

Descriptions			Districts		Chief Stations
OOMRAS	..	..	Berar	..	Akola, Akote, Amraoti, Ellichpur, Karanja, Khamgaon, etc.
			Central India	..	Bhopal, Burhanpur, Haidra, Indore, Khandwa, Sanawad, Khargone, Ujjain, Ratlam, Barwaha, Neemuch, Jaora, etc.
			Central Provinces		Arvi, Warud, Dhamangaon, Pandar-Kawda, Hinganghat, Nagpur, Wardha, Warora, Wuni, Yeotmal, Katol, Saoner, etc.
			Khandeish	..	Amalner, Pachora, Chopda, Dhamangaon, Dhulia, Faizpur, Jalgaon, etc.
MUGHLAI	..	..	Hyderabad	..	Lasur, Aurangabad, Jalna, Partur, Sailu, Parbhani, Purna, Nanded, Hingoli, Umri, Nizamabad, Barsi, Warangal, Latur, Karmala, Ahmednagar, Kurduwadi, etc.
BROACH	..	..	Gujarat	..	Ankleshwar, Vardoli, Broach, Dabhoi, Hansote, Miyagam, Navsari, Palej, Surat, etc.
DHOILLERA	..	..	Kathiawar	..	Kadi, Limbdi, Morvi, Lakhtar, Dhrangadhra, Rampura, Vankaner, Mandal, Viramgaon, Wadhwan, etc.
LARIA	..	..	Do.	..	Ahmedabad, Dehgaon, Kalol, etc.
MATHIA	..	..	Do.	..	Junagad, Bhownugger, Verawal, etc.
COMPTAH	..	..	Bombay Presidency		Bagalkote, Bailhongal, Gadag, Hubli, etc.
DHARWAR, S.G.	..	..	Do.	..	Davangiri, Gadag, Hubli, Savanur, etc.
DHARWAR UPLAND	..	..	Do.	..	Gadag, Hubli, etc.
WESTERNS	..	..	Madras Presidency		Adoni, Bellary, Bijapur, Guntakal, Raichur, Yadgiri, etc.
NORTHERNS	..	..	Do.	..	Kurnool, Nandyal, Tadpatri, etc.
RED COCONADA	..	..	Do.	..	Bezwada, Coconada, Guntur.
WHITE COCONADA	..	..	Hyderabad	..	Nizamabad, Seram, Warangal, etc.
TINNEVELLY	..	..	Madras Presidency		Satur, Tuticorin, Virudunagar, Dindigul, etc.
CAMBODIA	..	..	Do.	..	Coimbatore, Dindigul, Tirupur, etc.
RANGOON	..	..	Burma	..	Myingyan, Prome, Thayetmyo, Mahlaing, etc.

Not only has the size of the Indian cotton crop increased and is likely to expand in the future, but there has also been a distinct improvement in staple length. It is estimated by experts that about $1\frac{3}{4}$ million, perhaps even 2 million, bales of cotton are now being produced in India of a minimum staple length of $\frac{7}{8}$ in. Spinners in Lancashire and in other countries have not yet realized what excellent cottons are being produced in India, and with a view to popularizing the use of Indian cotton I submit two tables, the first showing the commercial descriptions, with detail of colour, suitability of counts, in what countries the cottons are at present being used, etc. This list was specially compiled on my schedule by a well-known Bombay shipper.



The newly-constructed Toyoda Automatic Loom Shed of The Toyo Podar Cotton Mills Ltd., Bombay.

(All transmission shafts are underground.)

INDIAN COTTONS, their description and uses.

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INDIAN COTTON REPORT

Description	Character	Staple	Blow-room loss	Yarns spun	Remarks	Price
BROACH :	Very silky, clean, very white; few, but rather big stains.	Staple varying from 20-21 mm. to 22-23 mm.	8-9%	Used for 18's-20's weft yarn.	Bought extensively by Japan, China, India, Continent; also sporadically by Bombay mills, quite freely by Ahmedabad mills.	10 to 15% off Liverpool.
SURTI-BROACH	Very silky and white; clean, few stains.	Staple varying from 24-25 mm. to 25-26 mm.	7-8%	Used for 20's-22's warp (for Surat style); 30's warp 40's weft (for Navsari style).	Chiefly bought by Ahmedabad and Bombay mills; also by Continent and some Manchester spinners.	Par to 5% on Liverpool.
PUNJAB-AMERICAN (H.F.)	Bluish white, some dark leaf; few stains; silky.	Staple varying considerably from 20 mm. to 22-23 mm.	9-10%	20's-24's warp	Used largely everywhere except in the U.S.A.	10% off to par Liverpool.
DHOLLERAS :	Very silky, but leafy, bluish white colour; few stains; seedy.	Staple varying from 20 mm. to 22-23 mm.; strong.	14-16%	Used for 20's-22's warp.	Bought extensively by Ahmedabad and Japan.	15 to 20% off Liverpool.
OMRA C.P.I.	Creamy white, fairly silky, very clean; few stains.	20-21 mm. staple.	7-8%	12's to 16's reeling.	Bought extensively by Japan, China, Continent, Liverpool, Indian mills.	15 to 20% off Liverpool.
OMRA C.P. II :	Somewhat inferior style to C.P. I, but about same cotton as regards colour, cleanliness and stain.	Staple a little less silky, and in length 19-20 mm.	9-10%	Used for 10's-12's reelings.	Bought freely by Japan, Continent; moderately China, Indian mills.	17 to 22% off Liverpool.
OMRAS : BERARS	White colour; fairly clean, few stains.	Staple varying from 18 mm. to 22 mm.	About 11%	Used for 12's to 14's reelings.	Bought very extensively by Continent and Japan; higher grades also by China; fair consumption by Indian mills.	20 to 25% off Liverpool.
OMRAS : Central India	White colour with a slight greyish touch; fair amount of leaf; not much stain but generally somewhat seedy.	Staple fairly silky, and varying from 19 mm. to 22-23 mm.	14-15%	Used for 16's-20's weft for Khandwa, Sanawad styles; mostly 20's weft yarn for Indore/Ujjain styles.	Exported freely to Japan and Continent, and fairly extensively used by all Indian mills.	20 to 25% off Liverpool.
OMRAS : Hyderabad State cotton (generally known by Moglais)	There are distinct varieties in these districts from fair to excellent staple. Colour creamy white and the shorter staple varieties fairly clean, somewhat starchy—the long staple varieties considerably more leafy—generally a bit seedy	19 mm. to 24-25 mm.	Short staple varieties about 12-14% Good staple varieties about 14%	Used for 16's-20's weft yarn. Used for 28's-30's warp, 36's-40's weft.	The good staple varieties are practically exclusively used by Indian mills, only a very small proportion of these crops being generally available for export. The shorter staple varieties find their largest outlet to Japan, but are also freely consumed on the Continent, and in fair proportion by Indian mills.	Varying considerably 25% off Liverpool to par.

OMRAS : Khandesh cotton.	Colour fairly white, cleanliness varying considerably from fairly clean to containing quite a lot of leaf. Some stain. Not quite free of seed.	17-20 mm.	11-14%	Used for 10's to outside 12's reeling.	Exported extensively to Japan and Continent; sporadically to China; fairly large consumption by Indian mills.	25 to 30% off Liverpool.
OMRAS : (Dholerab) Mutia cotton	Creamish colour. Considerable amount of leaf and stain. Very often containing a good deal of grit and seed.	Staple varying from 17 mm. to 21-22 mm.	14-18%	Used for 10's-12's reeling, except in the case of the longer stapled variety from the Veraval district, which can be easily used for 18's-20's weft yarn.	Fair consumption by local mills. Largely used on Continent but little in Japan.	30 to 35% off Liverpool.
BENGALS from U.P., Raj- putana, Punjab (Desi) seedy.	Generally good white colour, but a good deal of stain. The Punjab varieties are also a bit leafy. Often somewhat seedy.	Staple from 15 mm. to 18-19 mm.	9-12%	8's-10's ordinary reeling of weft yarn.	Largely used on the Continent and by Indian mills; fair exports to Japan and China.	30 to 40% off Liverpool.
SOUTHERNS : Western/ Northern/ Bijapur/ Bagalkotes.	Greyish white; rather leafy. Some tinges and generally somewhat seedy.	Staple varying from 20-21 mm. to 22-23 mm.	14-16%	Used for 20's warp (mostly).	Fair use on Continent—particularly Western and Northern—but little export to East. Chiefly consumed by all Indian mills.	5 to 15% off Liverpool.
SOUTHERNS : Miraj/Sangli/ Shedbal Comptahs.	Creamish colour; fair amount of leaf—particularly in Comptahs—some tinges and generally a bit seedy.	Staple from 21 mm. to 23-24 mm.	To about 12% for Miraj styles and 13-15% for Comptah.	Used for Miraj styles 20's-22's warp; Comptahs 22's-28's warp.	Export of these styles small. Mostly consumed by all Indian mills.	5% off to par Liverpool.
SOUTHERNS : Tinnevelly.	Whitish creamy colour. Clean—little stain.	Staple varying from 20-21 mm. to 22-23 mm.	9%	Used for 20's warp.	Exported to Continent and Liverpool, but more freely perhaps to Japan and China; fair consumption by Indian mills.	5% off to par Liverpool.
SOUTHERNS : Karunganni.	About equal to Tinnevelly in cleanliness. Creamier colour but somewhat better staple.	22 mm. to 24-25 mm.	About 10%	24's warp.	Mostly consumed by Indian mills, but some export to Europe and the East.	5% off to par Liverpool.
SOUTHERNS : Cambodias.	Creamish colour and fair amount of tinges and stain. Some bold leaf. Very silky but strong fibre.	From 23-24 mm. to 27-28 mm.	About 9-10%	Used for 28's warp, 36's weft.	Chief consumption by Indian mills, but certain amount of export to Continent, Liverpool and Japan.	Par to 5% on Liverpool.
SOUTHERNS : Coconada.	Yellow reddish colour, fair amount of leaf, some seed. Very silky strong fibre.	20-22 mm.	14-15%	20's warp.	Only sporadic and relatively small consumption by Indian mills. Freely exported to Continent. Japan small consumer.	10 to 15% off Liverpool.

FIBRE PROPERTIES OF STANDARD INDIAN COTTONS, 1926-29

Compiled by the Research Laboratories of the Indian Central Cotton Committee.

ENGLISH UNITS.

Report No.	Cotton	Season	Fibre Length in.	Fibre Weight per in. (10 ⁻⁶ oz.)	Fibre Strength (oz.)	Fibre Strength (oz.) per in. (10 ⁻⁶ oz.)	Fibre Weight (oz.)	Ribbon Width 10 ⁻³ in.	Convolutions per in.	Fibre Rigidity (oz.-in. ² × 10 ⁻⁶)	Fibre Rigidity (Fibre Weight) ²	Highest Standard Warp Counts
1	Dharwar 1	.. { 1926-27 1927-28 1928-29	0.89 0.89 0.87	0.204 0.202 0.182	0.168 0.152 0.129	0.82 0.75 0.71	0.61 0.65 0.61	0.61 0.65 0.61	67 76 81	0.109 0.132 0.127	0.26 0.32 0.39	34 32 34
2	Gadag I ..	.. { 1926-27 1927-28 1928-29	0.81 0.86 0.82	0.179 0.167 0.162	0.141 0.148 0.141	0.79 0.89 0.87	0.63 0.62 0.59	0.63 0.62 0.59	110 115 122	0.151 0.152 0.138	0.47 0.55 0.53	38 38 26
3	Surat 1027 A.L.F.	.. { 1926-27 1927-28 1928-29	0.97 0.94 0.96	0.200 0.207 0.204	0.171 0.167 0.165	0.85 0.81 0.81	0.73 0.74 0.71	0.73 0.74 0.71	96 73 63	0.162 0.132 0.125	0.40 0.31 0.30	32 30 32
4	Wagad 4	.. { 1926-27 1927-28 1928-29	0.85 0.79 0.84	0.257 0.181 0.216	0.179 0.109 0.138	0.70 0.60 0.64	0.68 0.70 0.77	0.68 0.70 0.77	46 47 56	0.189 0.101 0.174	0.29 0.31 0.37	16 18 16
5	Wagad 8	.. { 1926-27 1927-28 1928-29	0.80 0.77 0.80	0.264 0.189 0.239	0.178 0.124 0.144	0.67 0.66 0.60	0.72 0.72 0.76	0.72 0.72 0.76	45 46 58	0.221 0.122 0.135	0.32 0.34 0.24	14 14/16 14/16
6	P.A. 4 F ..	.. { 1926-27 1927-28 1928-29	0.78 0.79 0.76	0.134 0.186 0.197	0.132 0.156 0.169	0.99 0.84 0.86	0.70 0.70 0.68	0.70 0.70 0.68	104 102 99	0.093 0.210 0.234	0.52 0.61 0.60	24 22 16
7	P.A. 285 F	.. { 1926-27 1927-28 1928-29	0.82 0.89 0.88	0.104 0.133 0.125	0.115 0.131 0.108	1.10 0.99 0.86	0.64 0.59 0.67	0.64 0.59 0.67	100 110 90	0.059 0.104 0.099	0.55 0.59 0.63	34 34 34
8	P.A. 289 F	.. { 1926-27 1927-28 1928-29	0.97 0.94 0.96	0.098 0.142 0.122	0.109 0.135 0.151	1.11 0.95 1.24	0.62 0.62 0.58	0.62 0.62 0.58	88 118 122	0.053 0.092 0.093	0.55 0.46 0.62	38 40 38
9	Mollisoni	.. { 1926-27 1927-28 1928-29	0.68 0.73 0.69	0.272 0.335 0.303	0.164 0.195 0.182	0.60 0.58 0.60	0.77 0.88 0.76	0.77 0.88 0.76	65 114 106	0.242 0.463 0.512	0.33 0.41 0.56	8 8 5/8

10	Aligath A. 19	..	{ 1926-27 1927-28 1928-29	0.66 0.70 0.71	0.391 0.305 0.324	0.187 0.199 0.223	0.62 0.66 0.69	0.79 0.82 0.74	80 72 67	0.361 0.450 0.641	0.40 0.48 0.61	6/8 6/8 6/8
11	Cawnpore K. 22..	..	{ 1926-27 1927-28 1928-29	0.03 0.75 0.78	0.240 0.244 0.225	0.178 0.174 0.166	0.74 0.72 0.74	0.71 0.78 0.68	72 70 71	0.280 0.376 0.257	0.49 0.63 0.51	12 12 14
12	Bundelkhand J.N. 1	..	{ 1926-27 1927-28 1928-29	0.77 0.74 0.76	0.242 0.226 0.236	0.183 0.190 0.208	0.76 0.88 0.86	0.71 0.71 0.72	65 74 85	0.216 0.245 0.280	0.37 0.48 0.50	14 14 12/14
13	Cawnpore American C.A. 9	..	{ 1926-27 1927-28 1928-29	0.87 0.86 0.89	0.182 0.176 0.166	0.160 0.151 0.158	0.88 0.86 0.95	0.61 0.63 0.60	119 105 127	0.185 0.170 0.239	0.56 0.55 0.87	34 30 40
14	Verum 262 (Nagpur)	..	1928-29	0.85	0.215	0.199	0.93	0.62	72	0.193	0.42	26
	Verum 262 (Akola)	..	1928-29	0.83	0.187	0.174	0.93	0.63	79	0.136	0.39	22/24
15	Umri Bani	..	{ 1926-27 1927-28 1928-29	0.81 0.81 0.83	0.200 0.192 0.185	0.186 0.179 0.176	0.93 0.94 0.96	0.67 0.63 0.63	65 93 88	0.160 0.188 0.196	0.40 0.51 0.57	24 24 22
16	Cambodia Co. 1 (295)	..	{ 1926-27 1927-28 1928-29	0.92 0.93 0.93	0.155 0.164 0.170	0.127 0.138 0.125	0.82 0.84 0.74	0.59 0.60 0.62	91 110 126	0.124 0.134 0.179	0.52 0.50 0.62	38 34 32
17	Cambodia Co. 2 (440)	..	{ 1927-28 1928-29	0.88 0.92	0.141 0.148	0.123 0.099	0.87 0.67	0.62 0.61	108 90	0.138 0.099	0.69 0.45	32/34 26
18	Nandyal 14	..	{ 1926-27 1927-28 1928-29	0.93 0.88 0.91	0.191 0.196 0.187	0.233 0.229 0.236	1.17 1.17 1.26	0.61 0.67 0.65	46 56 60	0.142 0.147 0.169	0.39 0.38 0.43	34 30/32 30/32
19	Hagari 1	..	1928-29	0.84	0.207	0.140	0.63	0.65	78	0.164	0.38	24
20	Hagari 25	..	{ 1926-27 1927-28 1928-29	0.76 0.87 0.90	0.177 0.205 0.188	0.110 0.135 0.132	0.62 0.66 0.70	0.65 0.70 0.65	54 76 75	0.097 0.112 0.098	0.31 0.27 0.28	26 26 30
21	Karunganni C 7	..	{ 1926-27 1927-28 1928-29	0.85 0.85 0.81	0.192 0.183 0.186	0.183 0.177 0.159	0.95 0.97 0.85	0.65 0.62 0.70	57 62 74	0.170 0.156 0.184	0.46 0.47 0.52	24 24 20
22	Mississippi Memphis	..	{ 1923-24 1925-26	0.99 0.95	0.183 0.181	0.180 0.154	0.98 0.86	0.65 0.62	142 110	0.138 0.146	0.41 0.45	30 40
23	Texas	..	1925-26	0.86	0.206	0.164	0.80	0.58	140	0.210	0.49	30

Any of these cottons can be ordered by the above names from any of the Bombay Cotton Shippers.

The table entitled "Fibre Properties of Standard Indian Cottons," to which the attention of every spinner is earnestly directed, has been prepared by the Technological Laboratory of the Indian Central Cotton Committee at Matunga, Bombay, which is under the able direction of J. A. Turner, D.Sc., formerly head of the cotton spinning and weaving department of the College of Technology, Manchester. I wish to stress that Dr. Turner always approaches his researches from the point of view of the cotton spinner, and it is for the reason of its practical nature that his work appeals to the writer. A study of this table, giving the spinning tests from year to year of all the Indian cottons, will amply repay the cotton spinner. These spinning results are obtained in the most careful manner with a special spinning plant in the laboratory, which is managed by Mr. R. P. Richardson (spinning master) under Dr. Turner's guidance. These results are published immediately after they have been obtained, in small leaflets, and I strongly advise spinners interested in the matter to apply to the Secretary, Research Laboratory, Indian Central Cotton Committee, Matunga, Bombay, requesting to be placed on the mailing list for the receipt of these leaflets. They can be had at a small cost.

I venture to direct the attention of the American and Egyptian Governments to the very useful work which this Cotton Research Laboratory is carrying out and would suggest that similar scientific work be undertaken by these countries.

Spinners are recommended to make trials with a new variety, grown in Berar and Central Provinces, known as *Verum* 262, which is soft, silky, and has a strong staple of good length. The spinning results of one mill showed that for 19's warp, 19 turns per inch, the waste to spindle point was 11 per cent. and thelea test 75 lbs. So far 30,000 acres are sown with this variety; Government officials are distributing seed on a large scale to selected farmers who sell the seed cotton to the Government. This variety is being produced under strict Government control.

The following figures give Dr. Turner's spinning tests of Punjab-American cotton 4F, grown on the model plantation of the British Cotton Growing Association:—

Highest counts for which the cotton was suitable in the different seasons:—

1924-25	1925-26	1926-27	1927-28	1928-29	1929-30
22's	22's	24's	22's	16's	20's

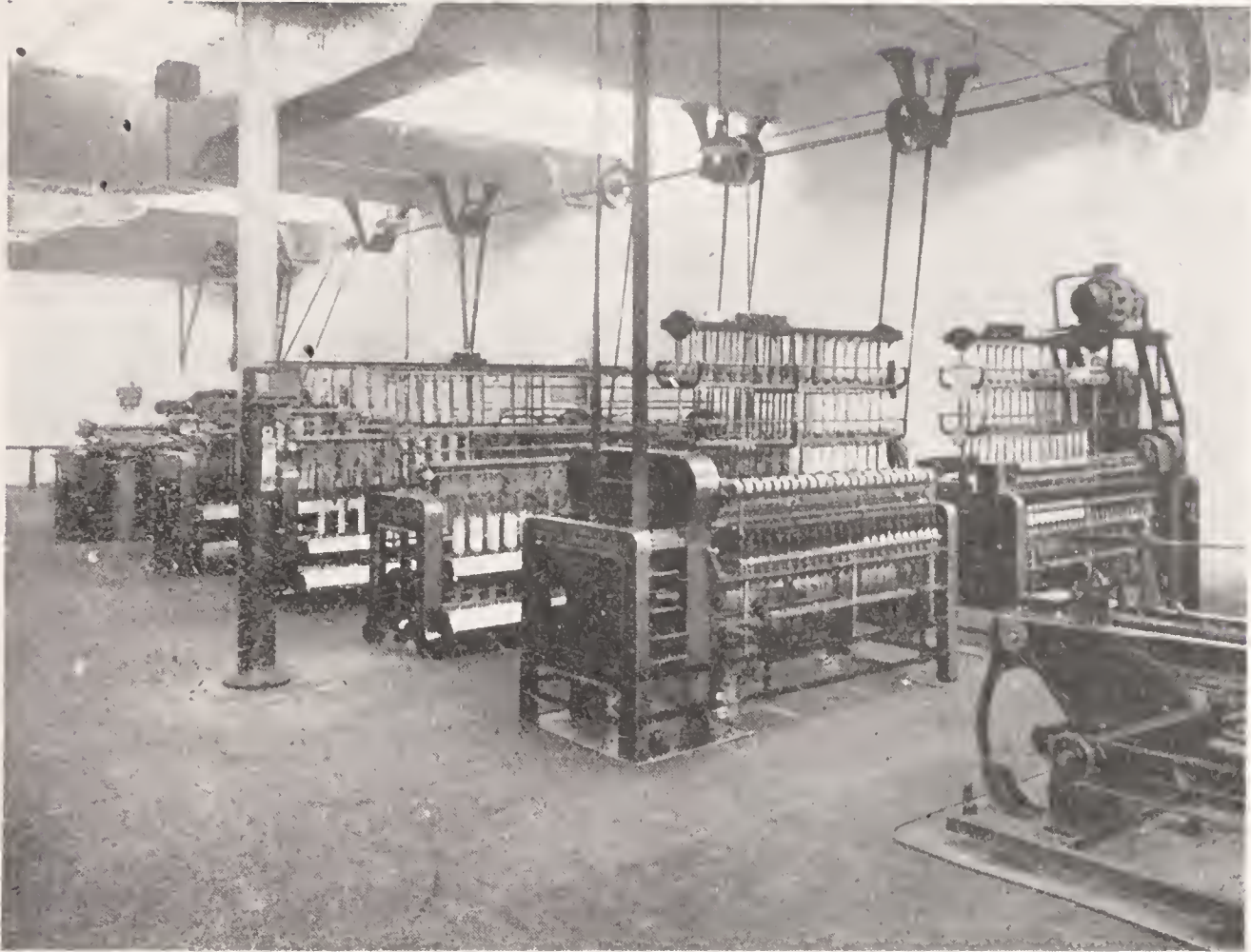
These figures show that this season the cotton has improved. This cotton can be bought from the British Cotton Growing Association in Manchester.

The Indian Central Cotton Committee are of opinion that taking the total Indian crop at six million bales, there will be a two-million bale crop of long-staple cotton, of which 320,000 bales, or 16 per cent., may be taken as suitable for warp yarn of 30/36's counts and an additional 60,000 bales or 3 per cent. suitable for weft yarn of 30/36's counts.

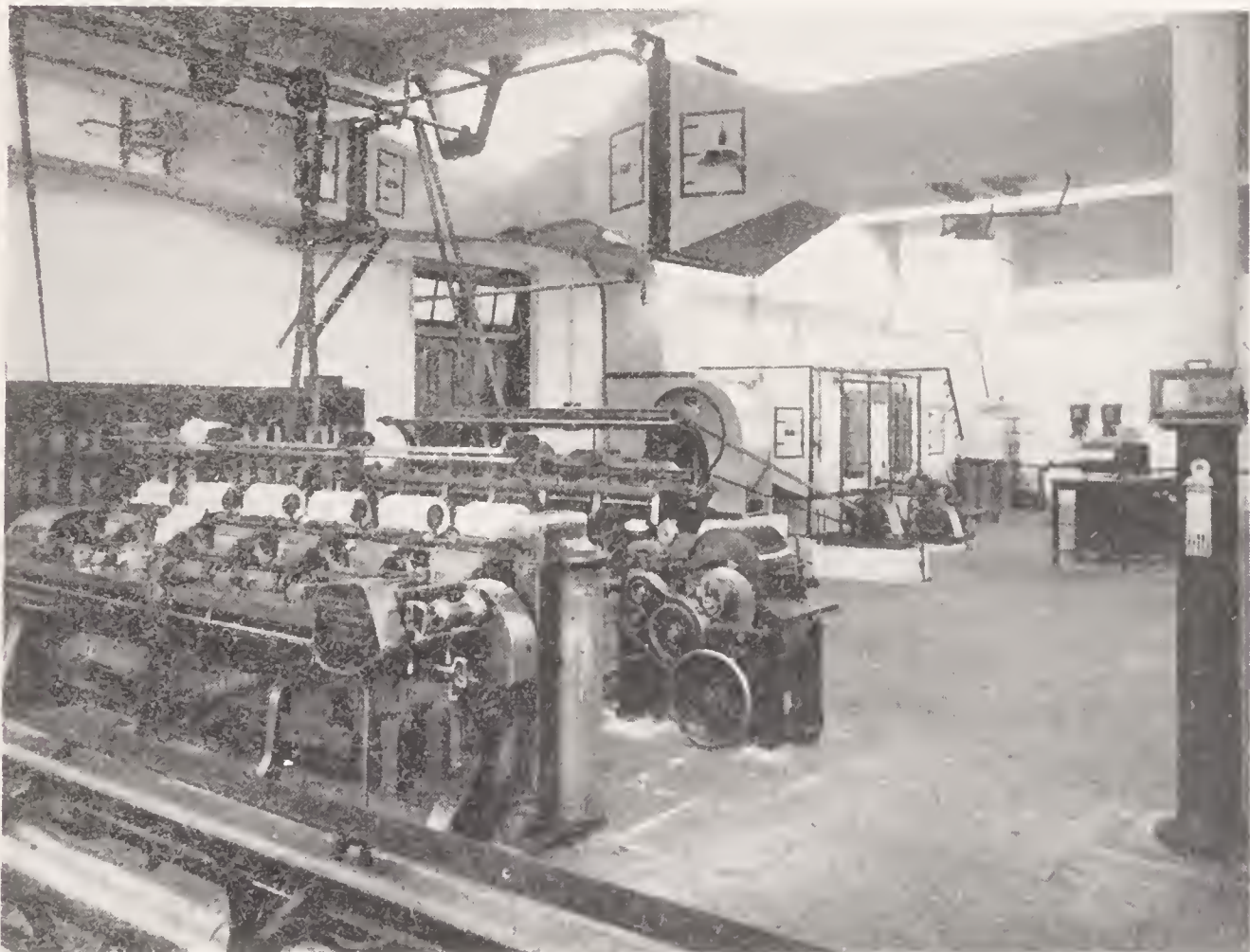
Indian cottons have still a bad reputation, due to the condition in which they reached Lancashire at the time of the cotton famine. Lancashire is one of the most conservative countries in the world

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The Spinning Department of the Technological Laboratory at the Indian Central Cotton Committee, Matunga, Bombay.



Another view showing the Combers and the "Carrier" Air-conditioning Plant of the Technological Laboratory of the Indian Central Cotton Committee.

as regards trade usages, and the writer particularly appeals to Lancashire spinners to give Indian cottons a fair chance. He is convinced that there are many cottons suitable for Lancashire and for Europe in general. The very fact that the yarn made for 2,300 automatic looms which are working in South India is spun entirely from Indian cotton should be an object lesson of sufficient value to induce spinners to make a new trial with Indian cottons. One English spinner informed me that he was spinning experimentally 36's twist out of Indian cotton without any admixture of other cottons.

The best qualities of Indian cottons are generally kept in the country for consumption of the Indian mills, as they can afford to pay higher prices than the European mills seeing that they have no sea freight to pay; these better kinds of Indian cottons serve to the Indian mills the same purpose as imported American cottons, and on these the freight is high.

Several Indian mills have their own ginning factories in the districts which produce the qualities most suitable for their purpose and others have their own buying agents scouting round for the best lots. Probably those European spinners who use large quantities of Indian cottons may find it to their interest to emulate the example of the Indian mills, and often it will be necessary to buy a whole season's requirements of special kinds of cotton early in the season, in order to make sure of the quality.

There are some few people in India who consider that the products of Indian soil are for Indians alone, but such absurd views are expressed only by extremists and we need not consider them.

I have been assured that the Indian Central Cotton Committee will take an active part in our future International Cotton Congresses and we may thus witness a closer co-operation between our two selves.

The Dates of Sowing and Picking Cotton are :—

	Date of sowing			Date of picking		
Dholleras*	July 1 to Aug. 5	..	..	Jan. to April
Broach	June 20 to July 20	..	..	" "
Oomras	June 15 to July 15	..	..	October to Jan.
Barsi-Nagar :						
(1) Early	June 10 to July 31	..	..	Nov. to March
(2) Late	Aug. 15 to Sept. 15	..	..	March and April
Kumpta	" "	March to May
Dharwar-American	" "	Feb. to April
Westerns	" "	" "
Sind (Local)	May to August	..	..	Oct. to Dec.
Bengal	April to July	..	..	Sept. to Jan.
Punjab-American	March to May	..	..	Oct. to Jan.
Karunganni	Oct. 15 to Dec. 15	..	..	April to July
Cambodia	September to October	..	..	April to July
Tinnevellies	October to November	..	..	March to Aug.
Burmah	May to June	{ Early	..	Sept. to Oct.
				{ Late	..	Jan. to Feb.

* The *Matheo* of Kathiawad, which is not a real Dhollera at all, though grown in the Dhollera area, is picked much earlier, from October to December.

Cotton is being picked somewhere in India throughout the whole year.

The **East India Cotton Association Ltd.**, Bombay, is the organization which supervises the "spot" and "future" transac-

tions on similar lines as the American, English or Continental Cotton Associations do. Up to 1918/19 the Bombay Cotton Trade Association was the authoritative institution for all transactions of this kind, but owing to the heavy speculation in forward deliveries during the war, as well as in spot cotton according to specified descriptions, the Indian Government stepped in, with a view to protecting the public and it established what was known as the "Cotton Contracts Board" to regulate the market. Fortnightly settlements were initiated and the organization was generally overhauled. In 1922 the trade desired to rid itself from Government tutelage and established a private concern, known as the East India Cotton Association Ltd., to which the Government transferred all the former activities of the Cotton Contracts Board. The Hon. Sir Purshottamdas Thakordas, Kt., C.I.E., M.B.E., M.L.A., is the President of the Association.



On the reclaimed land at Sewri (Bombay), not far from the principal mill district, 178 large ferro - concrete warehouses, capable of storing half a million bales, have been erected, and in front of these warehouses is a

large open space where during the dry season there is room for another half-million bales. The warehouses—each has a floor space of 111 ft. by 43 ft. and is 30 ft. high—are modern, well sprinklered, but in the piling up of the bales no cranes are used. These warehouses are let off to merchants, warehousing companies, etc. Whilst I noticed that in some warehouses the cotton bales rest on wooden sleepers, in others, belonging to a warehousing company, the bales were in direct contact with the soil and the passages had been watered. The result was that the bales at the bottom were damp. When I pointed this out, I was first told that the watering was done to prevent the dust, but afterwards my informant admitted jokingly that they had to protect their clients' interests.

The East Indian Cotton Association has at Sewri a fine Cotton Exchange, costing 1,800,000 rupees to construct, which was opened in December, 1925. Most of the cotton merchants have their buying offices in the Exchange. There are also large rooms for the official arbitrations and a "future" ring, which latter is unfortunately not in use because the native traders prefer to keep to their old-fashioned "rooms" in the bazaar in the city. Most of the cotton "future" traders are also dealing in wheat, bullion, etc., and for that reason they maintain that they cannot attend the Exchange at Sewri, which is about six miles from the bazaars.

European cotton spinners complain that the futures contract of

East Indian cotton is not a sure hedge. There are five permissible contracts under the rules of the East India Cotton Association Ltd., viz. :—

1. Fully Good M. G. Bengal Contract, fair average staple of the season, including cotton from the United Provinces, the Punjab, Sind and Rajputana.

Months of delivery : December, January, March, May, July.

2. Fully Good M. G. Broach Contract, fair average staple of the season, including cotton of the following descriptions, namely : Broach, saw ginned Dharwar, Punjab/American, Surat, Navsari, Rajpipla, Dholleras, Kalagin, Cutch and Kadi/Virangaum.

The staple of Punjab/American, Dholleras and Kadi/Virangaum tendered to be not less than 6/8 in. in length, the staple of Navsari, Surat, Rajpipla, Kutch and Kalagin tendered to be not less than 7/8 in. in length.

Months of delivery : April/May, July/August.

3. Fine M. G. Oomra Contract, fair average staple of the season, including cotton from the Central Provinces and Berar.

Months of delivery : December/January, March, May, July.

4. Fully Good M. G. Oomra Contract, fair average staple of the season, including cotton from Berar, the Central Provinces, Central India, Khandwa/Burhanpur, Khandesh and Kathiawar (Muttia).

Months of delivery : July and September.

5. Good M.G. Southern Contract, including cotton of the following descriptions, namely :—

Westerns, Northern (excluding "Red"), Bijapore, Bagalkote, Compta, Miraj, Cambodias, Tinnevellies and Karungannis. The staple of Northern, Compta, Miraj, Cambodias and Karungannis tendered to be not less than 7/8 in. in length. The staple of Westerns, Bijapore, Bagalkote and Tinnevellies tendered to be not less than 6/8 in. in length.

Provided that Compta cotton not less than 6/8 in. in length may be tendered if the seller declares on his delivery order "No premium claimed over basis," and similarly Karunganni cotton not less than 6/8 in. in length may be tendered if the seller declares "No premium claimed over Tinnevelly."

The basis is M. G. Westerns, Good.

Months of delivery : May/June, August/September.

In the case of Hedge Contracts the delivery period is from 1st to the 25th day of each single month mentioned above, and in the case of double months from the 1st day of the first month to the 25th day of the second month,

Foreign Cottons used in India. Indian mills used a few years ago large quantities of American cotton when its parity compared favourably with Indian cotton. Evidently a large quantity of this American cotton was "sledded" Texas, which had been raked from the fields. The mills were very annoyed at receiving such trash, and as they obtained very small allowances only, few have continued to use American cotton. In view of the prejudice which exists against Indian cotton in England, several Indians pointed to this sad experience which they had had with American cotton and told me that they never read of Europeans complaining of American cotton, but whenever Indian cottons fall off in one season, they are quick in pointing out the defects*. All American cotton is fumigated on arrival in Bombay as a protection against the importation of the Mexican boll-weevil.

Uganda cotton has found great favour amongst the Indian mills. A large portion of this crop is ginned and marketed in Uganda by the large colony of Indians who have emigrated to these parts. In India the Uganda cottons are being used for spinning a very soft 40's ring twist and 60's weft. This ring yarn is as soft as most mule yarns. Complaints of neps caused in the ginning were very general. It is evident that the Uganda cottons are more appreciated by Japan and India than by England, which has established cotton growing in Uganda. The short sea voyage from Uganda to Bombay is a great advantage. If Indian mills had not had this Uganda cotton they would not have been able to compete as successfully in medium counts with Lancashire mills, though they would have increased the demand, and consequently the price, of other growths. As this year's Uganda crop is said to be only half the normal size, Indian mills will be forced to buy other more expensive kinds of cotton, probably Egyptian Uppers.

Parity. The following tables, compiled by the Patel Cotton Company Ltd., Bombay, show the monthly variations for the last four years. Values of Bombay candies (784 lbs.) have been converted into pence per pound at the ruling rate of exchange for telegraphic transfer on London.

No freight, insurance, or shipping charges have been calculated, as these tables are only intended to show the relative values of Indian cotton as compared with American cotton for future delivery in Bombay and Liverpool respectively. To arrive at the values of Bombay, it would of course be necessary to calculate freight, insurance, and all other charges incurred, but for the purpose of straddle operations a comparison of values in the above manner has been found from experience to be of very great assistance.

* This remark had reference to the Barcelona Cotton Congress Resolutions which complained of the mixing of Punjab-American.

AVERAGE MONTHLY DIFFERENCE BETWEEN THE VALUES OF
INDIAN AND AMERICAN COTTON, 1926 to 1929

(Corresponding deliveries in Bombay and Liverpool future markets)

(in pence per lb.)

During 1926	Broach		Oomra		Bengal	
	Difference Pence	Average Rate Rupees	Difference Pence	Average Rate Rupees	Difference Pence	Average Rate Rupees
January	1.95	358	2.38	337	3.52	287
February	1.75	357	2.33	335	3.62	279
March	1.25	355	1.98	323	3.29	266
April	1.71	339	2.30	312	3.70	251
May	1.65	341	2.16	318	3.62	255
June	1.45	342	1.83	325	3.39	257
July	1.68	320	2.05	301	3.11	255
August	1.70	321	1.91	308	3.05	259
September	1.62	315	1.82	301	2.89	255
October	1.10	266	1.25	252	2.13	213
November	1.12	255	1.26	243	1.98	212
December	1.08	246	1.18	233	1.72	209
1927						
January	1.15	258	1.44	243	1.78	220
February	1.08	276	1.21	269	1.58	253
March .. ..	.72	297	.94	288	1.36	270
April	1.07	286	1.33	280	1.62	267
May	1.13	323	1.47	311	1.77	291
June	1.20	335	1.43	325	—	—
July	1.58	357	1.84	344	2.57	308
August	1.42	402	1.95	374	2.71	340
September	1.46	445	2.19	414	3.15	371
October	1.77	409	2.50	377	3.40	338
November	1.71	392	2.50	360	3.34	323
December	1.61	378	2.44	342	3.22	308
1928						
January	1.50	375	2.27	333½	2.99	305
February	1.35	357	2.11	328	2.77	298
March	1.63	366	2.33	333½	2.98	308½
April	2.11	367	2.86	340	3.45	315½
May	2.03	395	2.85	361	3.51	331
June	2.07	394	2.87	363	3.51	336
July	1.65	419	2.41	383	3.39	340
August	1.72	367	2.44	326	3.25	290½
September	1.81	335	2.51	303½	3.30	269
October	1.78	357	2.52	325½	3.37	288
November	2.01	353½	2.88	316¾	3.63	284½
December	2.11	362	2.96	323	3.92	281½
1929						
January	2.13	357	2.91	320	3.94	276
February	2.11	358	2.94	317	4.12	266
March	2.34	368	3.23	329	4.45	276
April	2.47	349	3.15	320	4.47	262
May	2.22	335	3.15	295	4.41	240
June	2.33	333	3.36	288	4.72	228
July	2.31	335	3.13	296	4.30	245
August	2.22	341	2.93	305	4.01	257
September	2.31	344	3.03	307	4.23	255
October	2.30	338	3.10	296	4.43	237
November	2.20	321	3.09	275	4.38	218
December	2.15	316	3.13	265	4.36	211

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EXPORTS OF RAW COTTON (IN BALES) FROM CHIEF PORTS OF INDIA FOR THE YEAR ENDING AUGUST 31

Year ending August 31	Bombay	Karachi	Madras	Tuticorin	Calcutta	Rangoon
1920-21 ..	1,876,605	181,458	13,875	66,122	32,715	82,297
1921-22 ..	2,547,767	255,331	32,259	73,145	243,544	64,700
1922-23 ..	2,950,079	363,488	65,197	91,132	43,747	43,747
1923-24 ..	2,690,324	546,305	95,050	148,772	35,885	45,156
1924-25 ..	2,750,563	849,217	82,061	174,298	48,144	87,315
1925-26 ..	2,432,413	1,048,703	96,543	118,085	40,983	84,931
1926-27 ..	1,963,445	685,054	54,670	41,333	39,269	65,044
1927-28 ..	2,198,802	792,142	77,694	75,124	45,355	48,474
1928-29 ..	2,746,380	990,757	95,962	49,689	24,718	47,359

The advance which Karachi has made is striking. The exports of Tuticorin have fallen off, due to larger consumption of mills in the south of India.

The following table shows the countries to which the cotton has been sent :—

COUNTRIES TO WHICH INDIAN COTTONS ARE EXPORTED FOR YEAR ENDING MARCH 31

(in thousands of bales of 400 lbs.)

Countries	Pre-war average	1920-1	1921-2	1922-3	1923-4	1924-5	1925-6	1926-7	1927-8	1928-9
United Kingdom ..	122	96	36	191	290	162	225	87	160	241
Other parts of the British Empire ..	30	18	11	9	9	9	16	6	7	7
Total, British Empire	152	114	47	200	299	171	241	93	167	248
Japan	1,012	939	1,760	1,621	1,722	1,671	2,084	1,842	1,235	1,610
Italy	233	213	154	211	551	485	456	305	330	384
France	109	38	57	126	174	134	193	123	185	204
China (exclusive of Hong Kong, etc.)	31	177	428	494	270	284	538	391	112	404
Belgium	277	243	198	252	256	201	243	159	230	347
Spain	50	77	30	66	87	96	73	54	61	76
Germany	351	201	235	263	244	174	218	145	256	324
Austria*	167	34	33	43	42	8	2	1	—	—
Other countries ..	25	38	47	57	119	102	125	75	110	115
Total, foreign countries	7,255	1,960	2,942	3,163	3,465	3,155	3,932	3,095	2,519	3,464
Total	2,407	2,074	2,989	3,363	3,764	3,326	4,173	3,188	2,686	3,712

* Figures prior to 1921-2 represent Austria Hungary

Japan used in 1918/19 74.94 per cent. of the Indian cotton exports; it is still the largest buyer of Indian cotton, but a glance at the exports of Indian cotton brings one to the conclusion that Japan is finding more suitable raw material for her changed industry in other quarters.

Exports to Japan in thousands of bales :—

	1918/19	1919/20	1920/21	1921/22	1922/23
Bales	939	1,648	1,149	1,663	1,759
Percentage	74.94	60.99	51.62	52.46	50.65
	1923/24	1924/25	1925/26	1926/27	1927/28
Bales	1,384	2,101	1,995	1,582	1,326
Percentage	40.11	52.55	52.85	55.90	42.24

In view of Japan's large increase of spindles, the above takings show clearly the considerably reduced consumption of Indian cotton per Japanese spindle. The custom-house tariff recently established by India against Japanese cotton goods has certainly annoyed Japanese mill owners, and they openly state that they will curtail as far as possible their use of Indian cottons in retaliation of India's increased rates of duties on Japanese cotton goods imports.

Cotton Shippers. From the following lists the importance of the exporting firms is seen; the shipments refer to the year 1928:—

FROM BOMBAY TO EUROPE

Shippers	United Kingdom	Belgium	Italy	Germany	France	Spain	Other countries	Total bales
Toyo Menka Kaisha, Ltd. ..	375	5,865	7,722	3,126	10,138	1,722	110	29,058
Japan Cotton Trading Co. ..	14,126	9,875	5,843	10,098	13,089	250	485	53,766
Gosho Kabushiki Kaisha ..	680	8,050	2,575	3,205	17,052	800	1,310	33,672
Ralli Brothers ..	16,363	38,736	31,477	13,262	12,334	6,441	11,603	130,216
Volkart Brothers ..	12,180	41,153	46,073	16,058	39,104	8,090	7,079	169,737
F. F. Campbell & Co., Ltd. ...	22,780	15,267	5,892	5,875	12,859	3,015	2,490	68,178
Patel Cotton Co., Ltd. ..	10,359	4,337	6,251	2,020	5,110	250	330	28,657
Wardhaman Brothers, Ltd. ..	1,547	16,868	9,160	1,005	6,103	289	—	34,972
The Bombay Co., Ltd. ..	566	7,302	7,340	1,765	5,147	150	1,423	23,693
Kilachand Deochand & Co., Ltd. ..	370	10,520	28,554	16,702	7,800	350	935	65,231
E. Spinner & Co. ..	—	12,429	5,200	1,115	2,820	750	431	22,745
K. M. Nathoo & Co. ..	25	1,265	11,388	—	1,320	1,550	—	15,548
Khimji Vishram & Co. ..	—	380	1,155	3,505	455	—	—	5,495
Union Cotton Co., Ltd. ..	485	220	360	832	—	—	—	1,897
Arjun Khimji & Co. ..	—	5,740	2,670	2,566	1,600	285	1,145	14,006
Narandas Rajaram & Co. ..	2,080	825	1,430	275	880	—	—	5,490
Louis Dreyfus & Co. ..	625	1,010	3,043	1,407	235	450	725	7,495
Hirji Nensey & Co. ..	240	7,720	1,750	—	605	—	110	10,425
Amersey Damodar & Co. ..	—	—	495	330	—	—	—	825
Italindia Cotton Co., Ltd. ..	—	2,740	5,500	1,595	240	360	—	10,435
Chachaty & Thakersey, Ltd. ..	151	13,239	3,033	670	9,343	1,435	808	28,679
J. A. Begble & Co., Ltd. ..	—	—	825	—	—	—	—	825
B. Kersondas & Co. ..	—	7,515	860	2,420	970	3,988	165	15,918
Sundry Shippers ..	6,965	9,588	71,292	25,948	6,726	1,075	650	68,244
Total bales ..	89,917	220,644	205,888	113,779	153,930	31,250	29,799	845,207

FROM KARACHI

Shippers	U.K.	Belgium	Italy	Germany	France	Spain
Toyo Menka Kaisha, Ltd. ..	—	650	6,447	3,040	4,622	850
Japan C. Trading Co. ..	21,427	2,399	5,620	11,969	3,085	1,600
Gosho K. Kaisha, Ltd. ..	4,004	1,910	5,222	2,601	2,872	300
Ozu-Burin & Co., Ltd. ..	—	—	—	—	—	—
Japan Trading & Mfg. Co. ..	—	—	—	—	—	—
The Bombay Co., Ltd. ..	2,330	6,696	9,774	5,075	507	3,248
Volkart Brothers ..	6,477	8,385	50,899	20,479	8,159	5,575
Ralli Brothers ..	19,239	10,501	23,248	20,283	6,327	8,588
F. F. Campbell & Co. ..	8,759	2,263	3,061	3,385	1,728	5,851
Gill & Co. ..	11,697	900	4,078	2,954	930	—
Anglo-Siam Corp., Ltd. ...	—	—	430	2,805	—	—
Louis Dreyfus & Co. ..	8,769	4,009	8,878	1,767	640	—
Langley & Co. ..	7,150	—	1,100	770	—	—
Sundry shippers ..	9,935	17,442	43,279	74,018	5,840	5,100
Total exports ..	99,787	55,155	162,036	149,146	34,710	31,112

Shippers	Austria	Holland	Denmark	U.S.A.	Other countries	China & Japan	Total bales
Toyo Menka Kaisha, Ltd. ..	—	330	110	—	376	21,831	38,256
Japan C. Trading Co. ..	—	770	—	600	1,672	69,461	118,603
Gosho K. Kaisha, Ltd. ..	—	1,258	—	—	12	26,059	44,238
Ozu-Burin & Co., Ltd. ..	—	—	—	—	—	14,800	14,800
Japan Trading & Mfg. Co. ..	—	—	—	—	—	900	900
The Bombay Co., Ltd. ..	—	1,485	—	—	1,436	2,700	33,251
Volkart Brothers ..	55	6,270	495	—	2,796	30,508	140,098
Ralli Brothers ..	336	7,072	110	5,818	4,413	39,850	145,795
F. F. Campbell & Co. ..	—	3,300	55	4,531	1,251	2,000	36,184
Gill & Co. ..	—	220	—	300	15,043	6,100	42,222
Anglo-Siam Corp., Ltd. ...	—	—	110	—	—	—	3,345
Louis Dreyfus & Co. ..	—	523	—	—	—	—	24,586
Langley & Co. ..	—	—	—	100	4,403	—	13,523
Sundry shippers ..	—	2,475	220	100	57,419	18,600	234,428
Total exports ..	391	23,703	1,100	11,449	88,821	232,809	890,219

FROM MADRAS

Shippers	U.K.	Germany	Belgium	Italy	France	Japan	Coast Ports	Total Bales
Volkart Brothers	2,152	3,155	23,614	5,028	7,186	1,410	2,029	44,574
Ralli Brothers ..	4,209	386	6,986	629	896	1,350	2,786	17,242
Lakshmidas								
Dwarkadas ..	5	—	715	—	—	100	11,141	11,961
The Bombay Co., Ltd. ..	—	275	7,502	805	—	164	—	8,746
S. Karamsey & Co.	—	—	—	—	—	—	1,800	1,800
K. C. V. M. Periyaswamy Chetty	—	—	—	—	—	—	1,799	1,799
Best & Co., Ltd. . .	—	—	—	—	—	—	125	125
A. S. Ispahani & Sons ..	—	6	—	—	—	—	—	6
Total exports	6,366	3,822	38,817	6,462	8,082	3,024	19,680	86,253

FROM TUTICORIN

Shippers	Europe	China	Japan	Coast Ports	Total Bales
Ralli Brothers	6,604	1,784	4,918	9,077	22,383
Volkart Brothers	9,918	2,772	6,208	884	19,782
The Bombay Co., Ltd. ..	3,727	—	14,539	136	18,402
Japan Cotton Trading Co.	4,309	3,214	1,915	14	9,452
Toyo Menka Kaisha, Ltd.	—	—	311	11	322
Sundry Shippers	329	—	—	688	1,010
Total exports	24,880	7,770	27,891	10,810	71,351

FROM CALCUTTA

Shippers	U.K.	Germany	France	Belgium	Italy	Austria	China	Japan	America	Other Ports	Total bales
Ralli Brothers	1,182	8,817	2,430	1,964	445	5	200	450	9,648	189	25,328
Volkart Brothers	—	4,452	677	1,020	92	450	—	—	2,163	—	9,034
Japan Cotton Trading Co.	—	1,179	300	330	220	330	300	5,450	200	—	8,309
F. F. Campbell & Co., Ltd.	176	376	234	130	50	2,150	—	—	930	155	4,231
M. M. Ispahani & Co., Ltd.	831	78	200	977	50	100	—	—	480	379	3,095
P. S. Sparling & Co. . .	—	921	—	—	—	—	—	—	1,402	—	2,323
Stoll Earl & Co. . . .	797	—	—	250	—	—	—	—	167	145	1,359
B. K. Mehta & Co. . . .	950	—	—	150	—	—	—	—	—	—	1,100
G. N. Harduttrai & Co. . .	—	—	—	—	—	349	—	—	533	50	932
G. Sajan & Co.	150	—	65	100	100	280	—	—	—	195	890
Sundry shippers	1,546	724	471	1,675	229	737	—	300	531	2,406	8,619
Total exports	5,632	16,547	4,377	6,596	1,186	4,401	500	6,200	16,532	3,519	65,490

FROM RANGOON

Shippers	U.K.	Germany	Belgium	Spain	Italy	Japan	China	Coast Ports	Total bales
Steel Brothers & Co., Ltd.	9,550	55	—	100	—	3,080	—	357	13,142
Finlay Fleming & Co. . .	2,376	535	—	—	—	2,900	—	—	5,811
Japan Cotton Trading Co.	400	269	200	—	—	8,479	400	—	9,748
Wilson Latham & Co., Ltd.	1,340	—	—	—	—	100	—	100	1,540
George Gillespie & Co., Ltd.	350	128	—	—	—	1,152	—	200	1,830
H. Smith & Co.	633	—	—	—	—	100	—	375	1,108
Others	522	220	—	—	220	6,866	—	319	8,147
Total exports	15,171	1,207	200	100	120	22,677	400	1,351	41,326

The major portion of the cotton shipments from Bombay to Japan and China is in the hands of the three big combines, each being usually responsible for 20 per cent.; the remainder is shared by a large number of firms, such as Ralli Brothers, Volkart Bros., Ozu-Burin & Co. Ltd., Madhowadas Amersey & Co., K. M. Nathoo & Co., Tulshan & Co. Ltd., etc.

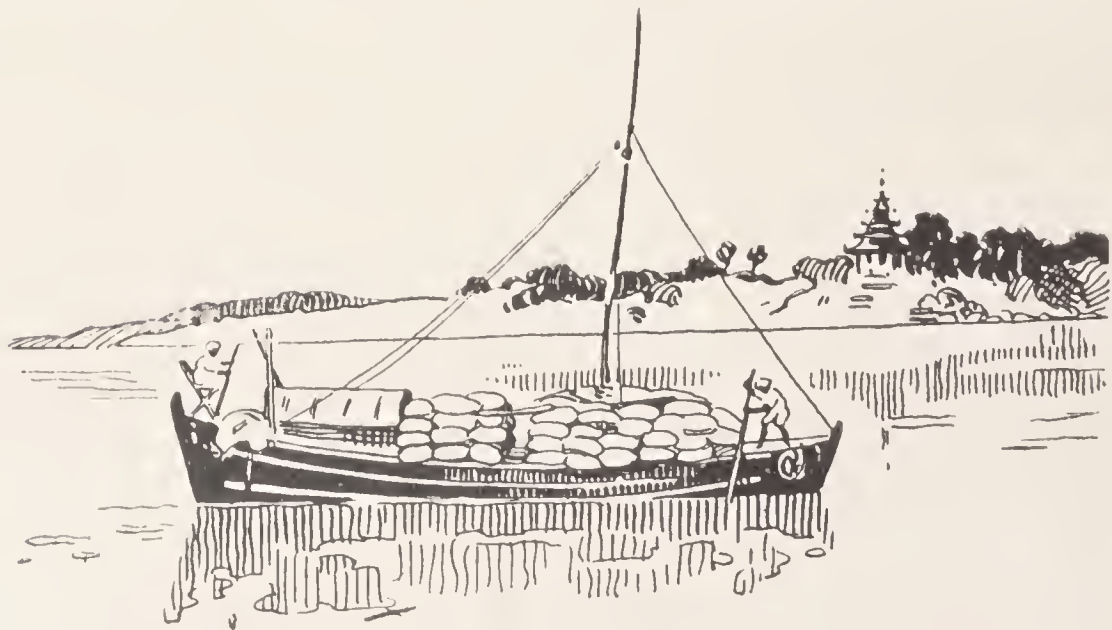
This chapter would not be complete without a compilation of the **Consumption** figures of the International Cotton Federation as far as they relate to East Indian cotton.

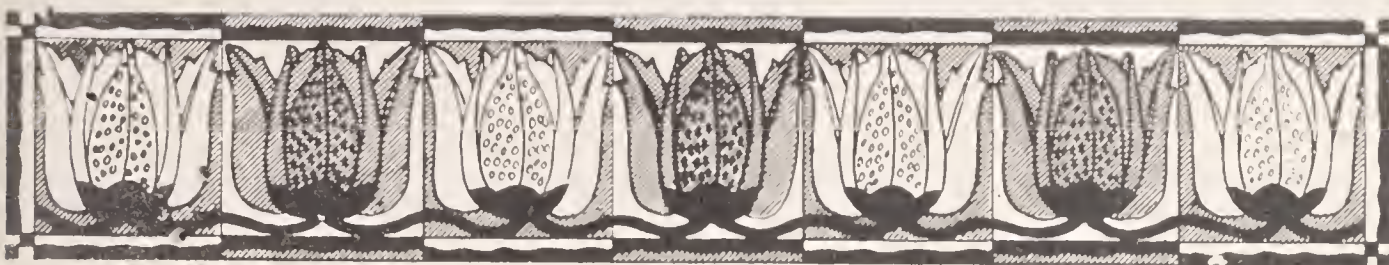
CONSUMPTION OF EAST INDIAN COTTON IN THE WORLD'S MILLS
(000's omitted)

(Compiled from the statistics of the International Cotton Federation)

Running bales regardless of weight

Countries		Total spindles existing Jan. 31, 1930	First half-year 1929/30 up to Jan. 31, 1930	Year ending August 31					
				1928/29	1927/28	1926/27	1925/26	1924/25	1923/24
Europe :									
(1)	Great Britain	56,277	100	183	121	82	168	183	201
(2)	Germany	11,260	144	252	212	172	204	214	208
(3)	France	9,891	100	217	180	159	163	160	198
(4)	Russia	7,624	52	—	—	—	1	—	—
(5)	Italy	5,317	133	225	179	184	254	288	314
(6)	Czecho-Slovakia	3,663	56	90	78	66	99	117	129
(7)	Belgium	2,179	89	175	147	129	156	145	163
(8)	Spain	1,875	46	74	64	53	73	71	111
(9)	Poland	1,494	12	23	24	32	22	26	34
(10)	Switzerland	1,454	5	9	7	6	10	9	11
(11)	Holland	1,163	22	37	34	27	30	27	15
(12)	Austria	828	20	40	34	25	48	46	62
(13)	Sweden	627	1	2	1	2	2	3	—
(14)	Portugal	503	—	1	2	—	—	—	—
(15)	Hungary	176	5	—	—	included in sundries			—
(16)	Denmark	98	—	—	—	—	1	1	2
Asia :									
(17)	India	8,807	1,087	1,880	1,840	2,188	2,105	2,347	2,037
(18)	Japan	6,837	870	1,488	1,241	1,556	1,770	1,478	1,554
(19)	China	3,699	199	398	308	459	488	340	331
America :									
(20)	U.S.A.	34,631	31	35	27	28	30	32	32
	Sundries	1,524	13	44	24	28	37	34	17
	Grand total	165,063	2,985	5,178	4,523	5,196	5,572	5,521	5,409





Organization of Industry

Organization of Employers.

With the exception of eight mills (six cotton, one woollen and one silk), all the Textile Mills in Bombay City and Island, including Kurla, are members of the Bombay Mill Owners' Association. The membership of the Association also covers the Sholapur Spinning and Weaving Mills and the Vishnu Cotton Mills, the Lakshmi Cotton Mills and the Jam Shri Ranjitsinghjee Mills in Sholapur; The Khandesh Spinning and Weaving Mills, and the Bhagirath Spinning and Weaving Mills in Jalgaon, Khandesh; and the Gokak Mills at Gokak Falls in the Belgaum District. In addition to these, some mills in the Madras Presidency, Bengal, the Central Provinces and Berar, the Nizam's Territory, Central India, Coimbatore, Tinnevely and Ceylon, and three Ginning and Pressing Factories are also affiliated to the Association.

The membership of the Ahmedabad Mill Owners' Association covers almost all the Textile Mills in Ahmedabad City, the Kadi Laxmi Cotton Mills at Kadi, the New Shorrock Spinning and Manufacturing Mills at Nadiad, the Saraswati Ginning and Manufacturing Mills at Broach, and the Surat Cotton Spinning and Weaving Mills at Surat. Unlike the Bombay Mill Owners' Association, which has a membership confined to the Textile Industry, the Ahmedabad Mill Owners' Association covers the Gujarat Oil Mills, the Ahmedabad Dyeing Factory, the Ahmedabad Victoria Iron Works, the Imperial Iron Works, the Bansi Roller Flour Mills, the Gujarat Islam Match Manufacturing Company, the Gujarat Chemical Works, the Nowrojee Vakil Brick and Tile Works, and the Ahmedabad Electricity Company, Limited.

There are also mill owners' associations in Baroda, Delhi and Madras; in Cawnpore and Calcutta the Chambers of Commerce have sub-sections of cotton mill owners, but in relation to Bombay and Ahmedabad these organizations are of less importance.

The Bombay Mill Owners' Association has guided the destinies of the Indian cotton mill industry since its inception in 1875.

The main task of the Bombay Mill Owners' Association, and to a lesser extent of the other associations, during the last ten years has been a political one, viz., the abolition of the excise duty and the introduction of protective duties on imported cotton goods,

but they have also devoted considerable attention to the many other problems, such as the settlement of strikes, the setting-up of a uniform wage list (see copy in Appendix), reorganization of the industry, collection of statistics on all kinds of questions. Indeed, the annual report of the Bombay Mill Owners' Association, comprising generally some 500 printed foolscap pages, is a document of energetic action in the many fields of Indian cotton-mill industry. Though there are people who maintain that the Association has not achieved much as regards the rationalization of the industry, it must be borne in mind that in this direction its work has been hampered through the sullen, phlegmatic, and at times defiant, attitude of the Bombay operatives; a further handicap was the weak financial position of many of the Bombay mills.

The Ahmedabad Mill Owners' Association has built up its organization considerably during the last twenty years. A young element of enterprise characterizes its work. Its Committee is entirely composed of Indians, whilst in Bombay and the other centres there are many Europeans active side by side with Indian mill owners.

The great advantage which Ahmedabad enjoys over the other centres is that its organization has been able to introduce compulsory arbitration in cases where disputes between masters and men cannot be settled. The Ahmedabad Association appoints an arbitrator, generally a past president, and the Labour Union has as its present arbitrator Mahatma Ghandi, who exercises a more powerful and a very beneficial influence in all social matters than in political affairs. This system of settlement of disputes has kept the industrial peace in Ahmedabad when disturbances of long duration have upset the Bombay mills.

The Bombay and Ahmedabad Mill Owners' Association have the right to nominate a representative to the Legislative Assembly in Delhi, and the Chambers of Commerce at Cawnpore, Calcutta and Madras have likewise their own representative in that legislative body; they are all represented in the local Legislature.

A peculiar system exists in more than 90 per cent. of the Indian mills, viz., that of "managing agents." The institution of managing agents in place of managing directors was examined closely by the Indian Industry Commission, whose description of it and conclusions as to the merits of it were as follows:—

"A characteristic feature of organized industry and commerce in all the chief Indian centres is the presence of the large agency firms, which, except in the case of Bombay, are mainly European. In addition to participating in the export and import trade, they finance and manage industrial ventures all over the country, and often have several branches in the large towns. The importance of these agency houses may be gauged from the fact that they control the majority of the cotton, jute and other mills, as well as of the tea gardens and the coal mines. This system originated, and has still continued, owing to the ability of these houses to furnish financial help to industries; it also owes its existence to some extent to the difficulty, in the case of companies under European control, of finding among the relatively small class of leading men of business available in India directors who

will remain in the country long enough to guarantee the continuous supervision requisite for the successful conduct of such business. An agency firm, as a rule, comprises several partners, some of whom are taking their turn of duty in India while the others attend to the firm's affairs in London or elsewhere. There is no doubt but that the system is in many ways well adapted to present conditions in India, and has a far greater list of successes to its credit than can be shown by ordinary company management under individual managing directors. We are much impressed by the strong evidence of the high financial prestige possessed by the better-class agency firms, and of the readiness of the investing public to follow their lead, a position only reached, we recognize, by a policy extending over many years of efficient management, cautious finance and watchful attention to the interests of client enterprises. Nevertheless, they have not escaped criticism as being unduly conservative in their methods of business, and as exhibiting undue reluctance to embark on new ventures. They have been charged with lack of enterprise and an unwillingness to follow up lines of development naturally proceeding from the expansion of operations in their own specialized industries. In other words, they have been inclined to develop commerce rather than industries, and have thus been at times less helpful than might have been the case in clearing the way for continuous industrial progress."

The managing agents receive 10 to 124½ per cent. on the profits of the mill, but in former years, before the depression in trade started, they used to get 4 to 6 pies per lb. on the production or sales, regardless of the profits. In consequence of the unfavourable conditions of trade, there has been a great outcry against the system of paying on turnover, and practically all the mills of Bombay the managing agents are to-day paid on profits; but as there have been very few mills in Bombay working with a profit they have had to go lately without remuneration. In Ahmedabad the system of paying on turnover is still the more general one, but there the mills have managed in most cases to show a profit.

It is common knowledge that some of the mill agents used to receive, until quite recently, what we might term secret commission on the purchase of cotton, mill stores, etc. One cotton merchant told me that he was instructed to reserve 2 per cent. on all purchases of raw cotton by one group of mills, which has recently been forced into liquidation. Other cotton merchants gave me the names of mills where they could never sell cotton for reasons of the existing system of graft.

The managing agents' main business is that of financing the mills. For the purpose of selling the production they are employing special selling agents, who guarantee also the accounts of the clients. A compilation of the rates of commission, brokerage, etc., paid by a large number of mills shows the following averages:—

Dyed and Bleached Goods.

Brokerage	¼ per cent. to ¾ per cent.
Discount	¾ per cent.
Sahi	1 Rupee per bale.
Selling Agents' Commission	2½ per cent.

Grey Goods.

Brokerage	$\frac{1}{4}$ per cent. to $\frac{3}{8}$ per cent.
Discount	$\frac{1}{8}$ per cent.
Sahi	1 Rupee per bale.
Selling Agents' Commission	1 per cent. to $1\frac{1}{4}$ per cent.

Fancy Goods.

Brokerage	$\frac{1}{4}$ per cent. to $\frac{3}{8}$ per cent., as high as 1 per cent.
Discount	$\frac{3}{4}$ per cent.
Sahi	1 Rupee per bale.
Selling Agents' Commission	$2\frac{1}{2}$ per cent.

Many of the Bombay mills having frequently changed hands, and having belonged to managing agents, who were also representatives of textile machinists, some are museums of all kinds of machinery from different machinists, as every time a mill was taken over the new mill agent was anxious to get some of the machinery into the mill which was made by a firm of textile machinists that he happened to represent at that time.

There are very few mills in India where only spinning is carried on. In most of them spinning, weaving, bleaching and dyeing are undertaken simultaneously. Very often there is more yarn produced than is required for the looms of the mills; this excess is for sale to the hand looms, of which almost two million still exist in the country. Ring spindles are fast taking the place of mules; there are quite a number of mule condenser weft spindles. The number of mule spindles is now 871,000, whilst the ring spindles are 8,807,000.

The Island of Bombay is still the principal centre of the cotton mill industry, though it has receded since 1908 from about 50 per cent. of the total yarn and cloth production of Indian to 40 per cent., due to the development which has taken place in Ahmedabad, Sholapur, Cawnpore, Madras and Southern India, Calcutta and Delhi. Bombay Presidency, which includes, besides the Island of Bombay, Ahmedabad and Sholapur, still comprises 85 per cent. of the cotton spinning and weaving machinery of the whole of India. Each of the above eight districts has its peculiarities, about which we shall learn in other parts of this report.

In connection with the various Government enquiries which have taken place on the question of Bombay's need of protective duties, and in connection with strike settlements, suggestions have been made to bring about a rationalization of the Bombay mills, and generally the very vague recommendation has been made that Bombay should put "its house in order."

During the time of my visit efforts were being made for the formation of a combine of a large number of mills situated on Bombay Island, by means of which it is hoped that economies will be brought about in the purchase of raw material, mill stores, and in the selling of manufactured goods. These negotiations had to be suspended with the advent of the hot weather, during which most of the leaders absent themselves from Bombay; but there seems to be a prospect that 44 mills will be amalgamated on a sound financial footing.

Other endeavours "to put the house in order" aim at giving each operative a few more spindles or an extra loom to attend to,

but these efforts have been only partially successful, as will be seen from the technical description of the mills. Mass production has been introduced in two mills with success, whilst in others the change has caused opposition from the operatives.

A list of the cotton mills in India, together with particulars of spindles, looms, number of operatives and paid-up share capital will be found in the Appendix.

Organization of Operatives.

TRADE UNIONS IN THE BOMBAY PRESIDENCY CLASSIFIED TERRITORIALY ACCORDING TO INDUSTRIES AND TRADES.

		Number of members as at March 1, 1929	
Name of Union	Date of Formation		
TEXTILE.			
<i>Bombay :</i>			
The Girni Kamgar Mahamandal* ..	December, 1923	1,200	
The Bombay Textile Labour Union*	January, 1926	6,749	
The Bombay Mill Workers' Union*	March, 1928	984	
The Bombay Girni Kamgar Union*	May, 1928	54,000	
<i>Ahmedabad :</i>			
The Weavers' Union	February, 1920	825	
The Throstle Union	February, 1920	11,180	
The Winders' Union	June, 1920	120	
The Card Room, Blow Room and Frame Department Union	August, 1920	3,725	
The Drivers', Oilmen's and Firemen's Union	September, 1920	525	
The Jobbers' and Mukadams' Union ..	March, 1926	700	
<i>Sholapur :</i>			
The Bombay Textile Labour Union (Shola- pur Branch)	May, 1928	800	

Those registered are marked *.

The following remarks are mainly based on information which was placed by the Bombay Government before the Commission of Labour that was investigating these points during the time of my visit.

The condition of workers in the Bombay Presidency has undoubtedly been improved during the last ten years as a result of their organization into trade unions, although there has also been a considerable amount of distress, particularly during the last two years, among the workers in the Bombay cotton mills on account of prolonged strikes. The strike of 1928, however, enabled the mill hands to secure many important concessions as a result of the appointment of the Bombay Strike Enquiry Committee, e.g., the recommendation that the mill owners should give up their proposal to reduce the wages of weavers by $7\frac{1}{2}$ per cent., the granting of most of the Seventeen Demands and the remodelling of the proposed Standard Rules in favour of Labour.

The Ahmedabad Labour Union has done much to ameliorate conditions of work in the Ahmedabad cotton mills, and has provided medical and educational facilities for its members. The creation of a permanent Arbitration Board for the consideration of all disputes which cannot be settled between the workers and the

mills concerned or between the Labour Union and the Mill Owners' Association is, in itself, a great achievement. It is hoped that when the Mediation Rules proposed by the Bombay Strike Enquiry Committee are brought into effect, trade unions of textile workers in Bombay City will be able to achieve a certain amount of success by friendly negotiation rather than by resorting to frequent strikes.

The activities of trade unions in the Bombay Presidency have so far been confined to attempts to secure the redress of the grievances of their members by making representations to their employers. With the exception of the Ahmedabad Labour Union, whose welfare activities will be mentioned in the chapter on Labour, there are very few unions in the Bombay Presidency which are financially strong enough to render any monetary help to their members during strikes or to undertake activities in the direction of paying any sickness, unemployment or superannuation benefits. After the last strike, in 1928, the ranks of the Bombay unions were reduced to about 5,000 paying members. There are some unions which give death benefits, some meet the burial expenses on the death of a member, and there are one or two others which have made special provision for legal defence, insurance and sickness benefit. Most unions in the Presidency include all kinds of trade union benefits for their members in their rules, *but very few have been able to carry out any effective work in connection with them.* About 25 unions of all kinds of workers, however, publish weekly, monthly or quarterly journals for the benefit of their members. These journals are more or less devoted to the ventilation of grievances. The following list of objects taken from the constitution of the Bombay Textile Labour Union is more or less representative, with minor variations here and there, of the "objects" adopted by the majority of the unions:—

- (a) To organize and unite the workers;
- (b) To secure to members fair conditions of life and service;
- (c) To try and redress their grievances;
- (d) To try to prevent any reduction of wages, and, if possible, to obtain an advance whenever circumstances allow;
- (e) To endeavour to settle disputes between employers and employees amicably, so that a cessation of work may be avoided;
- (f) To endeavour to provide against sickness, unemployment, infirmity, old age and death;
- (g) To endeavour to secure compensation for members in cases of accidents under the Workmen's Compensation Act;
- (h) To provide legal assistance to members in respect of matters arising out of, or incidental to, their employment;
- (i) To endeavour to render aid to the members during any strike or lockout brought about by the sanction of the Union;

- (j) To obtain information in reference to the industry in India and outside;
- (k) To co-operate and federate with organizations of labour, having similar objects in India and outside;
- (l) To help, in accordance with the Indian Trade Unions Act, the working classes in India and outside in the promotion of these objects; and
- (m) Generally to take such other steps as may be necessary to ameliorate the social, educational, economic, civic and political condition of the members.

The outstanding feature of trade union administration in the Bombay Presidency—and, indeed, in India generally—is the fact that it is largely controlled by persons who are not engaged in the industry with which the union deals, and that many of these people are interested in several unions in different industries. The illiteracy of the workers is the principal reason for this peculiarity. Another is the fact that social reformers have taken the lead in organizing labour and rousing them to a sense of their grievances and insistence on their rights. Up to very recently the bulk of the unions were very loosely organized, and activity was only apparent when a strike was in existence or threatened, or when wage increases were being discussed. This is particularly seen in the case of the Ahmedabad unions. While the unions were successful in securing favourable awards from the Board of Arbitrators during the years 1920 to 1922, the membership figures of the individual unions under the control of the Ahmedabad Labour Union stood at their peak, but after the wage cut of 15½ per cent. was effected in June, 1923, and during the years 1924 to 1927, when no dispute went up to the Arbitration Board, there was a sharp decline in the membership of all the unions. Generally speaking, the workers of Bombay did not appreciate the necessity for building up a strong organization, accumulating funds, and increasing membership. They took little interest in the work of their unions, and were wholly indifferent to the movement as a whole. The position is not much better to-day, although as regards management the rank and file are undoubtedly taking a keener interest.





Financial Position of India's Cotton Mills

In common with the world's depression of the cotton industry the Indian Cotton Mill Industry has not had a very remunerative period of late, though it is certain that the return on the capital invested in the Indian cotton mills, taking an average of the last ten years, is higher than that of any country in Europe or America. Probably the only country in the world which has enjoyed a more profitable time than India is Japan.

The Bombay Cotton Mill Industry has undoubtedly suffered heavy losses, mainly through competition from Japan and from the new mills which have sprung up in the interior of India, as has been explained in other parts of this report.

Both the Bombay and Ahmedabad Mill Owners' Associations have prepared, for the purpose of convincing the Government of the urgent necessity of the introduction of additional protective duties, combined balance sheets, duly audited by chartered accountants, and these no doubt convey to us some idea of the financial position of these two centres, but the "Investor's India Year Book," 1929-30, by Place, Siddons and Gough, Calcutta, from which we quote at length in the Appendix, gives the financial analysis of the most important cotton mills throughout India.

The causes of the unfavourable position of many Bombay mills are dealt with elsewhere.

The Statement dated November 19, 1929, submitted by the Bombay Mill Owners, reads in part:—

STATEMENT OF TOTAL LOSS SUSTAINED FOR THE YEAR ENDED DECEMBER 31, 1928.

	Rs.
Net loss as per Profit and Loss Account	12,646,416
Less—Proportion of Depreciation debited	64,953
	12,581,463
<i>Add—Amounts paid from Reserves :</i>	
Income and Super Tax	Rs. 296,447
Workmen's Welfare	51,532
	347,979
Net loss before charging Depreciation	12,929,442

STATEMENT OF TOTAL LOSS, Etc.—*Continued.*

Add—Depreciation :

Rs.

Machinery, 5 per cent. on Rs.278,650,693	.. Rs.13,932,535	
Buildings, 2½ per cent. on Rs.120,637,723 ..	.. 3,015,943	
		<hr/>
		16,948,478
Total loss for the year		<hr/>
		29,877,920

NOTE.—In addition to the above, Managing Agents and Debenture Holders gave up their claims for interest and commission during the year to the extent of Rs.930,829.

NOTE.—All mills in the City and Island of Bombay, with the exception of the Colaba Land & Mill Co., Ltd., were on strike from April 16, 1928, to October 6, 1928.



A Novel Method of Advertising. Exhibition Train of the Bombay Mill Owners—touring, during 30 days, the Indian Continent.

The interior contained artistic exhibits of the manufactures of each concern. The train travelled during the night and stopped during the day at all important cities of India, with a view to bringing to the notice of the Indian consumer the wide range of goods that is being made by the Indian mills. Notice the exhortation: "Buy Indian cloth and keep money in India."

The reproach is frequently made to the Bombay Mill Owners particularly that they had disbursed during the boom too high a rate of dividends, and that now many mills are crippled for want of funds, unable to buy more efficient machinery and make necessary improvements in other directions. Whilst this holds true to a great extent, it must also be borne in mind that the managing agents have not the absolute control of the fixing of the dividends. This rests with the general meeting of shareholders, and one case occurred where they were not satisfied with 400 per cent. but expected 500 per cent., on the basis of which several new shareholders had acquired their shares shortly before the meeting.

BOMBAY COTTON MILL INDUSTRY.

BALANCE SHEET as at December 31, 1928 (including Balance Sheets drawn as at June 30, 1928, March 31, 1929 and May 11, 1929). No. of Mills represented, 73.

CAPITAL AND LIABILITIES.		Rs.	Rs.	Rs.	PROPERTY AND ASSETS.	Rs.	Rs.
Capital :—					Fixed Capital Expenditure (At Cost) :—		
Authorized Capital .. .. .	.. .. .	196,956,000			Freehold and Leasehold Land	30,679,829	
Issued Capital .. .. .	.. .. .	172,161,935			Buildings, Bungalows and Workmen's Chawls, etc.	120,637,723	
Subscribed Capital .. .. .	.. .. .	171,568,435			Machinery, Electrical and Sprinkler Installations, Fire Appliances, Furniture, Live and Dead Stock, etc.	278,650,693	
Paid-up Capital (including Forfeitures) .. .. .	.. .. .		171,544,838			429,968,245	
Funds :—							
Reserve Fund .. .. .	.. .. .	65,979,792			Less Depreciation written off and provided to December 31, 1927	158,238,558	
Less Transfers to Profit and Loss Appropriation Account	Rs. 2,911,829				Less Set off against Capital Reduction Scheme	3,345,000	
Written off under Capital Reduction Scheme	Rs. 400,000—	3,311,829			Add Transfer this year	154,893,558	
Equalization of Dividends Fund .. .. .	.. .. .	9,766,835				842,530	
Less Transfers to Profit and Loss Appropriation Account .. .. .	.. .. .	2,323,374			Goodwill	155,736,088	274,232,157
Insurance Fund .. .. .	.. .. .		7,443,461		Stores :—		100,000
Income and Super Tax Provision Fund .. .. .	.. .. .	927,797	3,859,746		Consumable Stores, Dyes, Chemicals, Coals, Liquid Fuels, etc., and Spare Parts of Machinery (as per certified Inventories)		10,337,035
Add Transfers from this year's profits .. .. .	.. .. .	10,000			Stock :—		
Less Income Tax and Super Tax paid for the year .. .. .	.. .. .	937,797			Raw Cotton	46,867,828	
		296,447			Yarn	7,128,800	
			641,350		Cloth	36,508,342	
Less Transfer to Profit and Loss Appropriation Account .. .. .	.. .. .	44,000			Work in Progress	9,076,669	
Workmen's Welfare Compensation and Bonus Fund .. .. .	.. .. .		597,350		Waste, etc.	1,003,965	
Add Transfers from this year's profits .. .. .	.. .. .	3,421,019			Book Debts	100,587,604	
		5,000			Advance Payments :—	12,090,246	
					Rents, Rates and Taxes, Insurance, Forward Cotton Purchase, etc.	1,863,792	
Less Expenses paid during the year Rs. 51,532		3,426,019			Investments (At cost and/or market value) :—		
Written off under Capital Reduction Scheme	Rs. 364,494	416,026			Mills Own.	21,475,301	
					Interest accrued on above	269,300	
Sundry Funds .. .. .	.. .. .		3,009,993				21,744,601
Loans :—			10,924,524		Cash and Other Balances :—		
Mortgage Debenture Loans .. .. .	.. .. .	24,450,000		88,503,037	Cash on Hand at Mill, Agents' Offices, Cloth Shops and Cash in Transit	426,049	
Other Loans secured .. .. .	.. .. .	20,405,713			Cash in Banks and other places	6,478,176	
Other Loans unsecured .. .. .	.. .. .	69,583,769					6,904,225
Interest accrued on above .. .. .	.. .. .	89,989,482			Woollen Mill, Net Assets	5,728,156	
		1,380,703		115,820,185	Losses, 1927 and 1928	866,209	
Unpaid and Unclaimed Debenture Interest and Dividends :—				3,250,889	Loss on Sale of a Mill to be written off	6,594,365	
Liabilities :—					Less Written off under Capital Reduction Scheme	10,920,973	
Unclaimed and Unpaid Wages .. .. .	.. .. .	1,688,521			Profit and Loss Account :—		
Employees' Provident Fund .. .. .	.. .. .	3,560,178			Balance Loss as per Profit and Loss Appropriation Account carried forward to 1929		19,507,331
For Goods Supplied .. .. .	.. .. .	5,898,998					453,961,356
For Expenses .. .. .	.. .. .	8,002,955					
Sundry Other Items .. .. .	.. .. .	55,691,755		74,842,407			
Total Rs.			453,961,356		Total Rs.		

	Rs.	Rs.	Rs.	By Sales :—	Rs.	Rs.
To Materials used :—				Yarn and Twist	92,682,761	
at cost	81,608,753			Cloth	117,654,861	
Cotton	421,803					
Cess	71,262					
Yarn		82,101,818		Less Commission on Sales of Cloth and Yarn	150,337,622	
Waste		5,181,438			1,472,000	148,865,622
Consumable Stores, Dyes, Chemicals, etc.,		784,244		Waste		2,166,802
and Spare Parts of Machinery		13,027,151		Tares and Hoops		78,850
To Mills Labour :—				Dyeing and Bleaching Charges		1,507,531
Salaries		5,799,868		B Rent Received	660,672	
Wages		31,110,395		Less Rent Paid	410,448	
To Power, etc., used :—				By Transfer Fees		250,224
Coal		1,473,578		By Miscellaneous Receipts		16,879
Liquid Fuel		1,702,890				155,368
Electricity		6,152,319				
To Manufacturing Charges :—						
Ground Rent		46,636		By Balance Net Loss carried over to Profit		
Municipal—General Tax	897,607			and Loss Appropriation Account	13,902,582	
Halalkhore	228,786			Less Balance Net Profit carried over to		
Water Rate	518,151			Profit and Loss Appropriation Account	1,256,166	
Insurance, Fire		1,644,544				
Workmen's Compensation	1,324,637					
	68,439					
Repairs—Building	411,702					
Machinery	615,894					
Depreciation—Building	10,000					
Machinery	54,953					
Workmen's Welfare Expenses	66,629					
Less paid from Reserve	51,532					
To Establishment Charges :—						
Office Salaries	1,417,861		4,191,902	Weight of Cotton Consumed	167,981,494 lbs.	
Agents' Allowance	516,541			Weight of Yarn Spun	146,956,191 lbs.	
Agents' Commission	1,506,688			Weight of Cloth Woven (Grey,		
Less Given up by Agents	191,004			Bleached, Coloured or Dyed)	116,466,447 lbs.	
Profits and Riots Insurances						
General Charges (Printing, Stationery,						
Advertising and other sundries)						
Directors' and Auditors' Fees						
To Interest on Debenture and Loans	9,841,060		5,155,593			
Less given up by Agents, etc.	739,825					
Less Interest received						
To Income Tax and Super Tax Paid :—						
Income Tax	498,752		8,505,631			
Super Tax	298,560					
Less Paid from Reserve	797,312					
	296,447		500,865			
Total Rs.			165,687,692	Total Rs.		165,687,692



Labour in the Cotton Mills

The information contained in this chapter has been compiled from various Government reports, notably from the "Memorandum of the Government of Bombay, prepared for the Royal Commission on Indian Labour," published as recently as July, 1929. A study of this very exhaustive and reliable information will enable the reader to comprehend one of the major difficulties which confronts the cotton industry of India. Although this official information relates only to Bombay Presidency, it must be borne in mind that the Bombay Presidency comprises 85 per cent. of the cotton-spinning machinery of the whole of the continent of India, and includes such districts as Bombay, Ahmedabad, Shirlapur and Surat, and many conditions described apply also to the rest of India.

In face of the existence of such carefully compiled material, the writer would have considered it presumptive on his part had he merely given his own experience in place of it. As this Government information has previously not been brought to the notice of the majority of the members of the International Cotton Federation, no apology for the reprint of the following pages is needed. The writer has given his own views on labour in the summary remarks and in the description on the mill visits in the Technical Chapter of this book.

Origin of Labour.

As regards Ahmedabad City, workers in Ahmedabad District usually leave their villages and come to the city because of the attraction of higher wages, amenities of city life and the absence of a suitable secondary occupation for indebted agriculturists. Landless labourers, such as Dheds, and handloom weavers like Vankars, have come in large numbers to the city, as they could not earn their livelihood by the products of their handlooms, owing to the competition of factories. The Vankars have taken to spinning in the mills. They are regarded as untouchables and cannot therefore work with the higher caste people in the weaving departments. Patidar weavers come to the city in order to supplement their agricultural income. The high proportion of immigrants from Baroda State is due to the proximity of the State to the Ahmedabad District. Moreover, labour conditions in Ahmedabad are better than in Baroda because of shorter hours of work

and legislation regarding Workmen's Compensation, etc. The industrial backwardness and poverty of the soil of Rajputana, Marwar and Kathiawar, and the economic backwardness of some of the petty Native States are to some extent responsible for migration of labour to Ahmedabad. Some Deccani and Konkani labour is permanently settled in Ahmedabad. The immigration from the United Provinces, the Central Provinces and Madras is due to the fact that these Provinces are not as industrially advanced as the Bombay Presidency, and those going to Bombay in search of employment when they fail to get it there come to Ahmedabad to secure a job. The immigrants from Jubbulpore are said to be handloom weavers who have lost their occupation because of their inability to compete with machine-made goods.

There have been considerable changes in the stream of immigration in Ahmedabad in recent years, because of the higher wages after the war and shorter hours of work after 1920 when the 10-hour day was introduced in Ahmedabad. More labour has poured into Ahmedabad since then from Marwar, Kathiawar and the surrounding districts.

Contact with Villages. Extent and Frequency of Return.

The workers in Bombay City are in close contact with the villages from which they come. Those hailing from the neighbouring districts of the city, who either own landed property or whose families have rented land, go to their villages every year before the setting in of the monsoon and return soon after the rains are over. In the months of April and May, therefore, there is a regular exodus, mostly to the Konkan. Workers who do not own lands or have not rented fields for cultivation usually return once a year either for the *Shimga* holidays or during the *Diwali* holidays. Workers coming from the Ghats generally go to their native places during the *Navratri* holidays. Those coming from distant parts of the country, such as Northern India and the United Provinces, go once in two or three years and stay at their native places for three to four months at a time.

Besides merely going for a holiday or for cultivation of fields, it is usual for the working classes in Bombay to go to their native places when they fall ill. They also go back to their villages in large numbers when an epidemic breaks out in the city and during strikes of long duration. Married women workers coming from the adjoining districts to the city usually go to their native places for confinement.

As regards Ahmedabad, labour coming from the city itself has no contact with villages at all. About 2 per cent. of the people go to work daily from neighbouring villages within a radius of three miles. Those coming from the villages nearby go there almost on every holiday. Visits to villages are frequent especially during the marriage season (April, May and December), the sowing (July and August) and the harvesting (December and January) seasons. Marwari workers in Ahmedabad go to their villages during the *holi* holidays. Many people go to their villages only once a year. Workers coming from distant places like the United Provinces, the Central Provinces and Madras, etc., go once in two or three years only and are absent for more than a month.

If by permanent labour force is meant workers who have permanently settled in the city, who follow industrial or other occupations and have lost all contact with their villages, there is very little permanent labour force in the city. Such a rigid test cannot, however, be applied to Indian workers owing to their peculiar social and economic organization. India has been and still remains a land of villages, and an Indian worker who is brought up in his village is much more attached to it than to the city in which he works. Besides this, the prevalence of the joint family system adds to the difficulties of the industrial cities having a permanent labour force in the sense in which the term is understood in Western countries. The joint family system imposes upon the individual more duties and obligations towards more distant relatives than in the society where such a system does not prevail. Only a few members of a family migrate to the towns. The family itself remains domiciled in the mofussil (up-country) and the centre of the family life is there, so that the womenfolk return to it to bear their children, the menfolk when old age or disability comes to them, or when death causes a vacancy in the agricultural workers of the family. So far as the Bombay textile workers are concerned it may be said that, although they maintain a very close and living contact with their villages, the bulk of them are permanent in the sense that they are not merely birds of passage but continue to work in the industry for a considerable period of time once they join it.

It cannot be said that the remaining immigrant labour is purely migratory. Once the workers come to Ahmedabad they try to stick to their jobs and seldom, if ever, return to their villages for good. They no doubt go to their villages for short or long periods but do not fail to return. Moreover, when workers go to their villages many of them try to employ their own substitutes in order to be sure of getting their machines when they return. And it might be said that a very large majority of the labour force in Ahmedabad is permanent, although workers without any connection with villages form about only 20 per cent. of the working-class population.

Methods of Recruitment.

The days when the jobber had almost complete power over the labour force working under him in the mills, and the management had perforce to accept whatever labour the jobber thought fit to bring, are fast coming to a close owing to the growth of a more independent spirit among the workers.

The mill owners have always strongly discountenanced the practice of extorting commission from workpeople by jobbers, and where charges of this nature are substantiated, the most severe disciplinary action is taken against the jobbers concerned.

Recent enquiries made by the Labour Office in this respect show that although it is true that the mill authorities are endeavouring to put down corruption among the jobbers, the powers of the latter are still as great as formerly.

That the system leads to intensive "graft" is indisputable, and both the jobbers and their female counterparts, the *naikins*, levy contributions from the workers. The hold that jobbers

have over the workers is shown by the fact that if a jobber is dismissed he almost invariably takes a certain number of men with him and the number of small departmental strikes attributed to "dismissal of a jobber" is surprisingly large.

In the textile mills at Ahmedabad labour is recruited through jobbers and mukadams, one of whose main functions is to see that the machines under their supervision are worked with full complements. Before 1923 some shortage of labour used to be felt in mills. At that time jobbers and mukadams used to offer some inducements to labourers to work under them. These inducements usually took the form of giving tea or some cold drink to the labourers and the mills used to defray these expenses. Sometimes labourers working in other mills used to be brought in and compensated for the forfeiture of their wages in the mills in which they were working. This amount was also paid by the mills. Jobbers used to advance small sums of money to the labourers in order to induce them to continue to serve under them. However, the position now is the reverse of this. The supply of labour is plentiful and so labourers have to hunt for jobs. They go to the jobbers' houses or present themselves at the mill gates early in the morning, inquiring whether there are vacancies. The jobbers and mukadams are notoriously corrupt and do not hesitate to extort bribes. Something has to be paid at the time of entering service and on the first and every subsequent pay day in order to keep the jobber in good humour. Recently, at the instance of the Labour Union, about two dozen jobbers and one spinning master have been dismissed for corruption and this has had some effect on other jobbers. As a result of the persistent propaganda of the Labour Union the workers are also becoming more and more conscious of their rights, with the result that in recent years corruption has to some extent decreased.

It is of interest to point out here that the mill jobbers recruit Dhed boys from neighbouring villages and enter into contracts with their parents to pay them about Rs. 30 per annum, and feed, clothe and house the boys in return for their earnings. In the case of grown-up boys who can work full time the amount offered per annum varies from Rs.100 to Rs.125. The contract is generally entered into for two or three years.

Speaking generally, this system of paying something to the foreman exists wherever large bodies of labour are employed. It is to some extent connected with the fact that industrial labour still continues, although to a less degree than formerly, to be recruited from outside the city. Young men or older men who have been out of the industry for some time come to Bombay and take up their quarters either with a relative or with someone from the same village. These people are usually associated with a jobber or mukadam from the same part of the country, and he helps to keep the newcomer until he can be found a job, charging, of course, something for his services. Some of these jobbers and mukadams, therefore, tend to have a position which is something analogous to that of the Patil or headman of a village. In the case of Kanarese-speaking labourers from the south of the Presidency and the Nizam's dominions, the experience of the Commissioner for Workmen's Compensation suggests that their mukadam is a very impor-

tant factor in their lives. While, therefore, the system of recruiting labour leads to corruption, or worse, it has its beneficial aspects. The evils, however, outweigh the benefits, but it is not easy to suggest a system to replace it, because the peculiar social organization of the workers and the attitude of mind of many Indians of higher intelligence than millhands to expect to pay for favours received makes any radical change difficult to undertake. It appears to the Government of Bombay that well-organized trade unions could do much to put down the nuisance by impressing on the men their rights and by taking up every case of corruption which is brought to their notice.

It might be pointed out that it is understood that the Labour Union at Ahmedabad has under contemplation the establishment of a Labour Exchange under the joint management of the Labour Union and the Mill Owners' Association.

Disturbance of Family Life. Opium for Infants.

The industrial worker when he first leaves his village to take up employment in the cities usually goes alone although he may be married. He does not bring his family until either he has settled down or his wife has become old enough to look after the house. In the meanwhile he lives as a boarder in some family and is exposed to all the temptations of the life of a great city.

Another important question is of the effect of women's work in factories on the family life of industrial workers. Owing to the system of early marriage the majority of women employed in factories in this Presidency are married. Factory work, therefore, entails upon them a double responsibility, viz., looking after the home and the children, and work in factories. *It is a common practice in the cities of this Presidency for women workers to administer opium to their children in order to lull them to sleep when they are away at their work.* Sometimes the children are handed over to neighbours to be looked after in consideration of a small amount. Occasionally a child of school-going age is entrusted with the care of little children and this interferes with his schooling. The investigations made by the lady doctor appointed by the Government of Bombay to enquire into the question of maternity benefits, whose report was published in the September, 1922, issue of the *Labour Gazette*, showed that *opium is given to 98 per cent. of the children of factory workers.* The family budget enquiries made by the Labour Office in Ahmedabad and Sholapur also suggest that opium is administered to children both in Sholapur and Ahmedabad.

Labour "Turnover." Average Duration of Employment and Extent of Casual Employment (Absenteeism).

The percentage of extra men in each department is not necessarily the same, but we were given to understand that, spread over the whole of the mill, it usually worked out at about 10 per cent. The spare men are borne on the pay roll and receive their wages even if the full complement of workers in their departments is present. It may thus occasionally happen that the number of men on the pay roll for a particular day may be in excess of the labour force necessary for the efficient working of the mill, but

the figures for absenteeism seem to indicate that this is seldom, the case since the absenteeism generally exceeds 10 per cent. In any event, any loss to the mill on this account should be much more than made up by a gain in efficiency, for it will be obvious that men who are already employed in the mill and are familiar with its conditions and machinery must be of greater use than men casually recruited on the day for which their services are required.

The statistics obtained as a result of the wage census of 1926, however, are quite accurate, and these show that in Bombay City absenteeism for all workpeople in the textile mills comes to 8.26 per cent. It is 4.35 per cent. in the case of weavers, 7.13 per cent. in the case of all male operatives (including weavers) and 11.86 per cent. in the case of women. In Ahmedabad the percentage absenteeism amongst all workpeople (men and women) comes to 7.90, being 10.76 per cent. for weavers, 8.04 per cent. for men (including weavers) and 7.40 per cent. for women. Absenteeism in Sholapur is the highest in the Presidency, being 12.19 per cent. for all workpeople (including men and women), 15.07 per cent. for weavers, 12.49 per cent. for men (including weavers) and 10.81 per cent. for women workers only.

The following table, based on data collected by the Labour Office in the course of an enquiry into the length of service of Bombay mill operatives, may be of interest in connection with the question of the average duration of employment of cotton mill workers in Bombay City:—

ANALYSIS OF WORKERS ACCORDING TO THE LENGTH OF SERVICE AND NUMBER OF MILLS IN WHICH SERVICE HAS BEEN SPENT.

Approximate period of total service in years	— No. of cases in which the following No. of mills were served —								Percentage to Total total	
	1	2	3	4	5	6	7	8 and over		
Below 5 ..	341	104	41	14	6	—	—	—	506	37.54
5-10 ..	132	82	47	39	6	6	2	1	315	23.37
10-15 ..	58	53	47	23	19	8	4	2	214	15.88
15-20 ..	42	18	18	14	11	12	5	3	123	9.13
20-25 ..	31	18	9	12	11	4	2	—	87	6.45
25-30 ..	18	6	5	4	6	1	2	4	46	3.41
30-35 ..	10	3	3	1	4	1	1	1	25	1.85
35-40 ..	5	5	1	1	—	2	—	—	15	1.11
40-45 ..	4	2	1	—	1	—	1	—	9	0.67
45 and over ..	2	3	—	2	—	—	—	1	8	0.59
Total ..	643	294	172	110	64	34	19	12	1,348	100.00
Percentage to total ..	47.70	21.81	12.76	8.16	4.75	2.52	1.41	0.89	100.00	—

As a regular system of granting leave to operatives does not exist in the mills of the Presidency, workers who go on short or long leave usually find substitutes who are known as *badlis*. No figures are available as to the number of persons who are casually employed but, as most of the vacancies are filled, the percentage of casual employees would be approximately the same as the percentage of absentees in the various mills of the Presidency.

A Lancashire mill man who had been inside manager in Bom-

bay and Ahmedabad mills told me that he preferred the workpeople of Gujerat who work in Ahmedabad, especially those from Kathiawar, to those working in Bombay mills, the Mahratta people, as the former are more obedient and cleaner, and after pay-day there is not that amount of absenteeism in Ahmedabad as in Bombay. This view was endorsed by two other mill men with similar experience.

Selection of Managing Staff.

In the cotton textile industry in Bombay City the majority of the Managers are Lancashire men directly recruited from England. The tendency in recent years, however, is to replace Englishmen by Indians.

In Ahmedabad the agents themselves personally manage the mills in the majority of cases.

The subordinate supervising staff, so far as the cotton textile industry in this Presidency is concerned, is generally recruited from among the operatives. The highest rank such persons reach is, however, that of the jobber. There are no special facilities provided for the training of such persons except in the small Textile School conducted in Bombay by the Social Service League at Parel.

There are two fairly large technical institutes in this Presidency, one in Bombay and the other in Ahmedabad. The Victoria Jubilee Technical School in Bombay is doing excellent work in regard to the training of the supervising staff, both by its regular courses and by its short courses, which are held on Saturday afternoons and are attended by apprentices already at work in the mills. Persons who have passed out from this Institute after serving for a few years in the mills have an opportunity of rising to the position of heads of departments such as a spinning master or a weaving master.

Relations between Staff and Rank and File.

The constitutions of the Bombay Textile Labour Union and the Bombay Girni Kamgar Union provide for the creation, at each centre, of mill committees, but the mill owners do not recognize these committees except in so far as they recognize the trade union. The mill committee is merely part of the trade union organization for ascertaining and representing grievances. It may or may not be recognized by the management. The Bombay Textile Labour Union reports that its mill committees have been functioning successfully since the formation of the Union in 1926.

Extent to which Housing is Provided by Employers.

In the course of an enquiry into welfare work in the Bombay Presidency, which the Labour Office conducted in the year 1926, information was collected regarding housing provided by employers. Out of 76 textile mills in Bombay City which furnished information, 28 mills reported that housing had been provided for their workers. Seven out of these mills provide residential accommodation only for Ramosees, gate-keepers and night watchmen, and the rooms provided are given free of rent. The number thus accommo-

dated was reported at 147. Twenty-two mills provide partial housing for all operatives who desire to take advantage of the special facilities offered. The total number of employees working in these mills amounted to 64,720 and the number of workers who lived in the tenements provided by the employers amounted to 12,149 or about 20 per cent.

In the textile mills in Ahmedabad 37 mills provide housing for their employees. Out of these, two mills give free accommodation to their Ramosees, gate-keepers and night watchmen. Thirty-five mills provide housing for all classes of employees. The number of workers working in these mills amounted to 34,714, and the number who took advantage of the housing provided amounted to 5,605 or 16 per cent. of the total number employed.

All the five mills in Sholapur provide housing for their employees. The accommodation provided is not sufficient to house all the 20,000 odd workers who work in these mills. The number of workers who are reported to have taken advantage of the facilities offered amounted to 2,406 or 12 per cent. of the total number employed.

Out of 11 textile mills who sent in returns from the rest of the districts in the Bombay Presidency 10 mills provided housing. In one case 50 employees were accommodated rent free and in another case 25 employees out of 250 reside in the houses provided. The total number of employees in the 10 mills amounted to 13,322 and the number of those accommodated in the tenements provided amounted to 5,568 or 42 per cent. of the total.

Housing by Government or other Public Agency.

Government.—The Government of Bombay have provided 207 “chawls,” or 16,524 single-room tenements for the working classes in Bombay City at four different centres as under:—

Chawl area	No. of chawls	No. of tenements
De Lisle Road	32	2,560
Naigaum	42	3,344
Worli	121	9,660
Sewri	12	960
Total	207	16,524

The sites for the chawls selected are such that a majority of the mills in Bombay are within a mile of one or other of the chawl sites. About 34,000 persons are housed in these tenements.

According to the Census of 1921, 70 per cent. of the tenements in Bombay City were one-roomed tenements. The family budget investigation conducted by the Labour Office in the year 1921-22 showed that 97 per cent. of the working classes live in one-roomed tenements. These tenements are to be found in single or double rows in buildings locally known as chawls. The average area per working class room is 103.6 square feet, giving 24.7 square feet for each individual. The height of the rooms is usually from 8 to 10 feet.

The family budget investigation conducted by the Labour Office in Ahmedabad shows that 73 per cent. of the working classes

live in one-roomed tenements, 18 per cent. live in two-roomed tenements and the rest in tenements containing more than two rooms. The average floor space in one-roomed tenements comes to 143.22 square feet, thus giving each person 38.29 square feet of floor space. The average floor space for all tenements comes to 183.74 square feet, giving 47.36 square feet per person.

The results of the family budget enquiry conducted by the Labour Office in Sholapur in the year 1925 show that the majority of the workers there live in two or more rooms. It is seen that 33 per cent. of the cotton mill workers live in one-roomed tenements, 48 per cent. in two-roomed tenements and the rest in more than two rooms. The average floor space per room in Sholapur comes to 92 square feet and the average floor space available to each individual is 36 square feet.

Cotton Mill Industry.—As regards the nature of accommodation provided by cotton mill owners in the Presidency, the predominant type of housing in Bombay and Ahmedabad is the single-room tenement. In Sholapur, the tenements built by the owners contain two rooms.

Improvement Trust.—The quarters provided consist of semi-permanent sheds built of corrugated iron sheet walls and roof with an open verandah in front. The accommodation provided is a living room 10 ft. by 10 ft. and an outer verandah 10 ft. by 5 ft. Some rooms have no verandah.

Bombay Municipality.—The accommodation supplied is provided in permanent or semi-permanent chawls or in temporary sheds. Single-room tenements are mostly provided, although in some cases double-room tenements may be had.



A Set of Government Houses for Cotton Mill Operatives.

Most of these ferro-concrete houses are vacant. Operatives dislike living in them. These houses are frequently used for internment camps or prisons.

Utilization by Workers of Accommodation Available.

Speaking generally, in Bombay City the workers use to the fullest the available accommodation. The only exception to this is the accommodation provided by the Government of Bombay in the concrete chawls built by the Development Department. Out of a total of 16,524 tenements available in March, 1929, only 6,805 were occupied. This low figure was, however, partly due to the disturbed industrial conditions. The highest number of tenants recorded was reached in December, 1927, when it stood at 8,234. All the chawls have been provided with roads, water supply, lighting and shops, while at Worli one whole floor has been converted into a market for the convenience of the tenants. Schools and dispensaries are also established in all the chawl areas.

The following table shows the number of vacancies in March, 1928, and March, 1929, in the Development Department's chawls situated in the various localities of the city.

Chawl centre	Constructed	No. of rooms		Rent per room in March, 1929 Rs. a.
		Occupied in March, 1928	Occupied in March, 1929	
Naigaum ..	3,344	2,363	2,210	7 0
DeLisle Road ..	2,560	1,761	1,318	9 8*
Worli 	9,660	2,692	2,498	5 0
Sewri 	960	862	779	7 0

* For ground, first and second floor rooms. Rs.9 only for top floor rooms.

Special Problems Arising in Connection with Various Classes of Housing. Subletting.

According to the 1921 Census, there were in Bombay City 3,125 one-roomed tenements in which two or more families lived. Of these tenements, more than 75 per cent. are situated in those wards of the city in which the bulk of the workers live. Subletting is resorted to either because the family cannot afford to pay the rent or because the workers consider that money spent on rent is money badly spent. It, however, sometimes leads to extreme cases of overcrowding. The report of the lady doctor appointed by the Government of Bombay to enquire into the question of maternity benefits to industrial workers, which was published in the year 1922, contains one such extreme example of overcrowding. The lady doctor says in her report: "In one room on the second floor of a chawl measuring some 15 ft. by 12 ft., I found six families living. Six separate ovens on the floor proved this statement. On enquiry, I ascertained that the actual number of adults and children living in this room was 30." In this connection it is of interest also to quote from the report of the Industrial Disputes Committee which reported to Government in the year 1922. They say:—

"It is difficult to give figures to show the pressure of rent on the wage-earning class, but two instances which came before us illustrate its oppressiveness. In the chawls attached to the Spring mills a monthly rent of three rupees per room is charged; inquiry showed that some of the lessees were making as much as 10 rupees a month profit by subletting. Until an adequate supply of sanitary rooms, let at rents within the means of the ordinary wage-earner,

is available, every effort really to improve the condition of the operative classes is pursuing a will-o'-the-wisp. All the increased wages are swallowed in rent; there is no fixity of tenure; and the people will not, nor can they be expected to, improve their homes."

It was to meet these conditions that the Development Department built over 16,000 tenements out of a projected programme of 50,000. But never more than 50 per cent. of these 16,000 tenements have ever been occupied.

In Ahmedabad City subletting is hardly prevalent among the working classes.

As pointed out in the Labour Office Report on an Enquiry into the Family Budgets of Cotton Mill Workers in Sholapur City, the housing conditions there are much more satisfactory than either at Bombay or Ahmedabad and naturally, therefore, subletting does not exist there to any large extent.

In the chawls built by cotton mill owners in Bombay City it is not unusual to find persons working in other concerns in these chawls. This is especially the case when the rent charged is at an economic and not concession rate. When a favourable rent is charged, outsiders are usually not permitted to reside in the chawls built by the owners.

General Health Conditions of Workers.

Generally speaking, they are not very satisfactory in Bombay City. This is due to many causes such as bad housing, poor diet, want of open-air exercise, etc. But the main cause of their ill-health appears to be the prevalence of malaria in localities in which they live.

The correlation between the intensity of malaria and the proximity of mills was most striking, especially in certain cases where a single isolated mill happened to be present, e.g., the Victoria Mill, in Chowpaty, and the Colaba Land Mill, in Colaba.

In the opinion of Major Covell, the Special Malaria Officer appointed by the Government of Bombay, overcrowding is one of the chief contributory causes to the high rate of infantile mortality.

In connection with the question of the relation between overcrowding and infant mortality, the following table is of interest:—

INFANT MORTALITY BY THE NO. OF ROOMS OCCUPIED IN 1927.

No. of rooms	Births		Deaths in—		Infant mortality	
	No.	Per-centage	No.	Per-centage	per 1,000 births registered	
1 room and under	11,615	53·6	5,688	83·0	490	577
2 rooms	1,736	8·0	352	5·1	203	254
3 rooms	392	1·8	87	1·3	222	215
4 or more rooms	174	0·8	34	0·5	195	163
Hospitals	7,764	35·8	680	9·9	88	107
Homeless and not recorded	4	—	16	0·2	—	—
Total	21,685	100·0	6,857	100·0	316	389

During the year 1927 the Municipal nurses paid 37,397 visits to houses, chawls and huts, and enquired into 2,910 cases of ordinary sickness. They also attended on 1,330 confinements. The number of women admitted to the three Municipal Maternity Homes during the year 1927 was 2,189. As regards Infant Milk Depots, two Infant Milk Depots have been established for the benefit of children born in the Homes or under the supervision of Municipal nurses. 21,263 seers of milk were distributed at these depots during the year 1927.

Dietary.

A great deal of detailed information is available on this subject in the three family budget reports published by the Bombay Labour Office.

Of the total expenditure of the family nearly 57 per cent. is on food.

As regards the cotton mill workers in Sholapur, 49 per cent. of the monthly expenditure is on food.

Extent of Medical Facilities Provided by Employers.

Out of 76 textile mills in Bombay City which supplied information, 68 mills reported that they maintained dispensaries for the supply of medicines. Four mills provide only medical attendance and three mills supply ordinary drugs such as quinine, liniments, etc. Only one mill in Bombay reported that no provision had been made either for medical attendance or for the supply of medicines. In most cases the dispensaries are attended by qualified medical practitioners and in a few instances arrangements are made for the attendance of a doctor at the workers' homes in cases of serious illness. No charge whatever is made in 66 mills; one mill charges one anna per head per month for medical attendance only, and in another mill one anna per head per month is charged for those earning less than Rs.7 per month and two annas per head per month for those earning Rs.7 per month and over. Five mills make nominal charges for the supply of medicines. Two mills charge about two annas per head and another deducts two pies in the rupee on wages earned up to a maximum of four annas. One mill charges two annas per head per month for all workers except those earning less than Rs.7 per month. In the fifth case the charge is one to two annas per head according to earnings. Three mills charge for both medical attendance and for medicines supplied. In one case 3 per cent. of the wages bill is set apart for this purpose. In another the charge is one pie in the rupee for each employee, and in the third case two annas per head per month is charged for those earning more than Rs.30 per month, whilst workers who earn Rs.30 per month and under are treated free. Thirteen mills did not supply any information with regard to the numbers treated. In the remaining mills the daily average number treated amounted to about 2,000.

Out of the 59 mills working in Ahmedabad, 10 mills had no provision for medical aid of any kind, and in eight cases only a few patent medicines and ordinary drugs were supplied. The remaining mills were making provision both for medical attendance and

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supply of medicines. Four mills maintain hospitals in addition to dispensaries for the treatment of out-door patients. No charge is made in any of the Ahmedabad mills for medical aid. Twenty-five mills which supplied information as regards the numbers treated reported that the average daily number of patients dealt with amounted to 850.

All the five mills in Sholapur City provide both medical attendance and medicines. One mill maintains a hospital and three mills have maternity homes in addition. A charge of one anna per head per month is made in the case of one mill for the supply of medicines. In the other mills treatment is free. Four mills which kept records of the numbers treated reported that the average daily number of patients treated amounted to 350.

Out of the 11 mills which sent in returns from the mills addressed in British Territory in the rest of the Bombay Presidency, three mills reported that no provision had been made for medical aid, whilst three mills reported that they stocked a few patent medicines and ordinary drugs only. Five mills provided full medical aid and one mill maintained a maternity home in addition. The average daily number of cases treated in the four mills which reported information amounted to about 60. Seven mills make no charge for medical aid, and in one case there is a nominal charge of one anna per head per month.

Recreation.—Among cotton mills in Bombay City, four mills had provided playgrounds for the benefit of their employees, but three of these mills reported that none of their workers took advantage of the facilities offered. In one case where provision had been made for football, cricket, etc., the majority of the workers were reported as taking part in the games. One mill had provided two gymnasiums, one for Mahars and the other for Mahrattas. The number taking exercise in the first was reported as 50 and in the second as 65. One mill provided a hall for indoor games but no statistics were available with regard to the number of workpeople making use of it. With regard to the question of entertainments, one mill regularly arranged for dramatic performances, cinema shows, religious discourses and open-air lectures. All the workers in this mill (about 3,000) took advantage of these entertainments and the attendance at the open-air lectures was reported as averaging 2,000. Another mill provided for lectures, magic lantern shows, etc., and the majority of the operatives of the mill were reported to present themselves at these shows.

The Currimbhoy Ebrahim Workmen's Institute provides a gymnasium, social club, a cricket club, and makes arrangements for sports and excursions. At the social club arrangements have been made for selling tea and refreshments of good quality at reasonable rates for all the workers of the Currimbhoy Ebrahim Mills. The total number of persons who took advantage of this arrangement in 1927 amounted to about 55,000 and the sales amounted to about Rs.12,000. Sports meetings are arranged frequently, when workers take part in various prize competitions provided, such as wrestling matches, running races, physical feats, long and high jumps, tug of war, etc. In addition to the above, the Institute stages dramatic performances once or twice a month, conducts

magic lantern lectures and social gatherings and provides a harmonium and a gramophone for the benefit of its members.

Among the Ahmedabad mills, one mill provided an open ground for sports. Another mill started a cricket club but none of the workers took advantage of it. In two cases rooms were provided for prayers. One mill had a gymnasium and provided periodic entertainments for half-timers and young children. Cinema shows were arranged occasionally by one mill, but apart from these instances the returns from the Ahmedabad mills under the head "Recreation" were all blank.

Three out of the five cotton mills in Sholapur provided facilities for outdoor sports. One mill had its own cricket and hockey teams and a special sports ground for half-timers. Sweets and eatables were given to the children on the playground off and on in order to encourage them to take healthy exercise. The same mill also started a Boy Scouts movement. The troop strength in 1926 was 120. The scouts were also provided with their own special playground for outdoor sports. Four mills in Sholapur provided gymnasiums with wrestling pits. The average daily attendance at the gymnasium of one mill was reported at 50. With regard to entertainments one mill had an amateur dramatic club which staged Marathi plays from time to time for the amusement of the employees of that mill.

Out of the 11 up-country mills which submitted returns one mill reported that provision had been made for suitable playing fields, a football ground, two tennis courts and three wrestling rooms. The loan of the school hall is given at a very low cost to touring dramatic companies for staging plays and it is also used for various other entertainments which are organized from time to time. Another mill provided a sports ground and a third mill arranged for cinemas and dramatic shows when convenient. These were reported to have been attended by about 50 per cent. of the operatives.

Crèches.—A question closely connected with that of maternity benefits is of crèches for infants of women operatives. A great deal of progress has been made in the Presidency in opening up new crèches and in the care of infants of workers in the cotton textile mills. The progress made in this direction has been largely due to the efforts of the Lady Inspector of Factories, who was appointed in the year 1924. It is seen that in the year 1927, 13 Bombay mills maintained crèches. The average attendance in December, 1927, was 269 as compared with a maximum attendance of 303. The mothers are beginning to take considerably more interest in matters relative to the health of their children, and a number of them voluntarily consulted the lady inspector as to the exact effect of opium on their children. The administration of opium to 102 infants was directly stopped in the crèches. In this connection lectures to the women and frequent talks to individual mothers were given. In one mill the crèche costs Rs.300 a month, a large proportion of which was personally borne by a member of an agency firm. Nursery schools have been started in a few crèches.

In Ahmedabad 16 mills maintain good crèches, while some 10 others provide facilities that are in need of improvement. It has

been reported from Ahmedabad that very few infants and children of working mothers are now seen in mill departments.

The mills in Sholapur continue to do very useful work in the direction of providing facilities for working mothers. There are three mill crèches in the Sholapur mills. A nurse, assisted by five "ayyas," is in charge of each crèche. Every morning the infants are given a warm bath and are cleanly dressed. Milk and parched rice are distributed to the babies every day. The average daily attendance at the three crèches was 140 in the year 1928-29 and the expenses during that year amounted to Rs.4,651.

Employment of Welfare Officers and Workers.

In the case of the Sholapur Spinning and Weaving Mills in Sholapur and the Currimbhoy Ebrahim Workmen's Institute at Bombay, special welfare officers or workers conduct their welfare activities. At the mills of Messrs. Binny & Co., Madras, two English welfare officers have been at work for the last 20 years, whose excellent work is described at the end of this chapter.

Provision of Educational Facilities by Employers.

In 1916 an understanding was arrived at between the representatives of the Mill Owners' Association and the Bombay Schools Committee whereby the Schools Committee were to open schools at certain centres and the Mill Owners' Association undertook to pay fees and give bonuses for regular attendance. In 1917 there were 10 factory schools, with an attendance of 465 children, in Bombay. In 1921 there were only five such schools, with an attendance of 310 children. It was found that the principal difficulty to be contended with was the unwillingness of the children to attend the schools provided, and the conclusion arrived at was that no rapid progress in the education of factory children could be looked for until compulsory education was introduced in the areas in which these children reside. The Bombay Municipality have now introduced compulsory education in F and G wards, which are chiefly peopled by millhands.

In Bombay City no provision has been made by the employers for the education of their adult workers. In Ahmedabad also there is no special provision except a small library in the compound of the Calico Mill. Madras has such instruction for adults.

No schools are maintained in Bombay City for half-time workers. In Ahmedabad during the years 1918 to 1922 the Jubilee and the Calico mills started a scheme for the education of their half-timers. A spacious building was constructed for this purpose, and the mills offered scholarships of Rs.4 per month to half-timers attending the school. The mill authorities were, however, not satisfied with the response from their workers for what they did, and the scheme was therefore abandoned. The Advance Mill still runs a school for half-timers, which was started in 1921. One set of pupils attends the school between 10 and 12 in the morning, and the other set from 1 to 3-30 in the afternoon. All the half-timers in the mill attend the school. In all there are 21 boys and 24 girls on the rolls. The school is situated within the mill compound, and workers' children who are not half-timers are not admitted. Three

mills in the Sholapur district have made provision for the primary education of half-timers. These half-timers read up to the primary second standard and receive instruction for about $2\frac{1}{2}$ hours a day.

For Workers' Children.

In Bombay City the employers do not conduct any schools for workers' children, but some of the cotton mills give special grants for this purpose to bodies carrying on educational work in the city. Donations are given out of the Currimphoy Trust Fund to the Technical School started at Parel by the Bombay Social Service League. In Ahmedabad eight mills maintain schools for workers' children. The Calico Mill School is managed by the Municipality; the Jubilee, the Bharat Textile and the Bharat Cotton Mill Schools by the Labour Union and the rest by the mills themselves. The Jubilee Mill has framed a scheme according to which school fees and text books are supplied to workers' children or the dependents of workers whose pay does not exceed Rs.150 per month. The Jubilee Mill is also running a Montessori School for the benefit of workers' children between the ages of $2\frac{1}{2}$ and 5 years. The Ahmedabad Mill Owners' Association used to contribute, from 1922, a sum of Rs.15,000 per year, being the interest from their contribution of $2\frac{1}{2}$ lakhs to the Tilak Swaraj Fund for the educational activities conducted by the Ahmedabad Labour Union. Since April, 1928, however, this contribution has been stopped as the Union has declined to allow the Association to have a voice in the method of spending the money.

Extent to which Schools are Utilized.

Information on this point is not available except in the case of Ahmedabad. In Ahmedabad the number of mill children attending schools built by the employers is about 300. The Calico Mill has engaged two men to fetch children to the school, and the attendance is higher than in other schools. In spite of this, however, all children do not attend the school, because parents do not take sufficient interest in the education of their children.

Co-operation.

Efforts have been made in this Presidency to organize co-operative societies among industrial labouring classes since the year 1911-12. The first society among the millhands was organized by Diwan Bahadur A.U. Malji in his spinning mill at Broach with a capital of Rs.1,557. There are at present 104 societies for this class of people in Bombay City and the suburbs, and five outside Bombay with a total working capital of Rs.555,924 and a membership of 9,274.

The question of the formation of Co-operative Societies among millhands and artisans was not taken up till the year 1912 in this Presidency, when the Broach Industrial Millhands' Society and four societies in the Western India Mills at Bombay were registered. The object of these societies was to relieve millhands by granting them loans for short periods to tide them over the period—about six weeks—during which their pay is held back by their employers as a security for their good conduct, and, secondly, to supply cheap groceries to their members.

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Causes of Accidents.

The following table analyses accidents by causes :—

Causes of Accidents	1927				1928			
	Fatal	Serious	Minor	Total	Fatal	Serious	Minor	Total
Working machinery :								
1.—Textile machinery :								
(a) Blow room machinery	—	65	37	102	1	41	21	63
(b) Carding room machin'y	2	87	45	134	1	56	28	85
(c) Drawing machinery	—	21	16	37	—	21	10	31
(d) Speed frames ..	—	31	33	64	—	23	10	33
(e) Spinning machinery	1	45	33	79	—	45	15	60
(f) Looms	—	97	176	273	—	81	139	220
(g) Calenders	—	18	6	24	—	13	6	19
(h) Unclassified textile machinery ..	1	70	77	148	3	73	61	137
2. Machine tools ..	1	75	245	321	—	78	248	328
3. Miscellaneous unclassified machinery ..	3	47	25	75	1	67	34	102

Accident Prevention (including " Safety First " Propaganda).

Statistical research into the causes of accidents was introduced some years ago in the Factory Department. Accidents are thus not only classified by cause, but an internal classification as to the part of the machine causing the accident has also been adopted. This enables concentration on special types of accidents to be made. The system has already been fruitful of results, since, by its aid, the Mill Owners' Associations agreed to change the shuttle guards on a large number of looms and to provide new carding machines with automatic locks on the stripping doors, while the Mill Owners' Mutual Insurance Association agreed to bear the cost of Safety Posters. These have been recently produced by the Factory Department in co-operation with them, and with vernacular captions have been posted in the mills of the Presidency.

The inspectors have been impressing upon the lower subordinates in the mills the necessity of explaining the danger points of machinery and processes to ignorant workers before they are allowed to handle the machines.

In some factories, safety rules have been introduced.

Stringency of Inspection and Enforcement of Regulations.

The following table is of interest in connection with the question of the stringency of inspection :—

INDUSTRY GENERALLY (PERENNIAL FACTORIES).

Year	No. of factories	Inspections					Remarks
		Once	Twice	Thrice	More than thrice	Uninspected	
1926 ..	675	112	178	246	131	8	Full-time staff and ex-officio inspectors.
1927 ..	678	70	191	153	259	5	
1928 ..	715	91	206	177	232	9	

Workmen's Compensation Act.

The Workmen's Compensation Act was passed in 1923 and came into operation on the 1st of July, 1924.

The Mill Owners' Mutual Insurance Association charges a flat rate for the textile mills of three annas per hundred rupees of expended wages. This rate was first initiated by this Association

and was later accepted by other insurance companies. The Association also insures risks under the Workmen's Compensation Act in other industries carried on by its members, and it is believed that the rates in such cases are approximately 25 per cent. cheaper than those charged by other insurance companies. The Association has insured 45 textile mills in Bombay, and there are also on the register of the Association 12 mills from other parts of the country.

Hours Worked per Week and per Day. Normal Hours.

In the textile industry in the Bombay Presidency the hours of work for men are 60 per week, with an average of 10 hours a day. Women in the Ahmedabad mills are generally similarly employed. In a number of Bombay mills, however, women are employed for nine hours a day and 54 hours a week.

Actual Hours including Overtime.

No general overtime is worked in the textile industry. In a few cases departmental exemptions are granted under Section 30 (2) of the Factories Act, but these are almost infinitesimal.

Days Worked per Week.

A six-day week is general throughout the textile and seasonal factories in the Presidency.

In the Bombay textile industry a 10-hour day and a 60-hour week have been secured by the workers as a result of the strike of 1920.

In Relation to Workers' Meal Times.

In the textile mills in this Presidency it is usual for workers to obtain unauthorized intervals for meals. But apart from the unauthorized intervals an hour's interval is practically general.

In connection with the question of the interval for meals, it might be pointed out that the Tariff Board (Cotton Textile Industry Enquiry) suggested that a very essential reform to be immediately introduced in the Bombay mills is the fixation of a definite period of rest to enable the operatives to take their morning meal. In accordance with this recommendation the Bombay Mill Owners' Association suggested in their Standing Order No 6, which was presented to the Fawcett Committee, that a morning recess of half an hour should be granted to the operatives by reducing the afternoon interval by 15 minutes and by asking the operatives to work for 15 minutes longer in the evening. After hearing arguments on this question from the representatives of the Mill Owners and the Joint Strike Committee, the Fawcett Committee, after endorsing the opinion of the Tariff Board that the morning recess was desirable, came to the conclusion that it was not reasonable to require the mill owners to reduce the present number of working hours from 10 in order to enable this recess to be provided so long as there was no general reduction of that kind made for all factories by legislation or otherwise. At the same time they felt that the mill owners could not reasonably insist on the operatives reducing the mid-day hour recess and staying one-quarter of an hour longer in the mill in order to enable the half-hour morning recess to be given.

Day of Rest. Existing practice.

In the Bombay Presidency, 313 factories observe Sunday as

a weekly rest day. The remaining 1,124 factories, apart from those specially exempted, observe either Sunday or a substitute day. It is usual for the mofussil (up-country) factories, especially the seasonal factories, to observe the local bazaar day as a day of rest.

SPECIAL QUESTIONS RELATING TO WOMEN, YOUNG ADULTS AND CHILDREN.

Effect of 1922 Act on Employment.

The most noteworthy result of the 1922 Act has been that the employment of children in the Bombay mills has almost ceased, while the percentage of children in the cotton spinning and weaving industry in Ahmedabad has been reduced from 13 per cent. in 1921 to 2 per cent. in 1928. The 1922 Act was immediately operative in Bombay, but in Ahmedabad double employment and defective certification neutralized its effect. Improved certification and effective measures to prevent double certification have, however, led to a steady reduction in the number of children employed in the Ahmedabad mills from 1923 onwards. The following figures are of interest:—

EMPLOYMENT IN COTTON SPINNING AND WEAVING FACTORIES.

				Bombay		
Year				Men	Women	Children
1921	..	..		114,062	29,970	2,268
1922	..	..		120,232	29,770	1,239
1923	..	..		114,423	29,600	653
1924	..	..		112,904	31,065	578
1925	..	..		113,580	32,396	268
1926	..	..		114,658	33,541	55
1927	..	..		112,925	32,048	32
1928	..	..		(General strike. Figures unreliable.)		

				Ahmedabad		
Year				Men	Women	Children
1921	..	..		39,328	8,212	7,114
1922	..	..		39,046	8,790	6,925
1923	..	..		39,663	9,098	5,712
1924	..	..		39,859	9,553	3,750
1925	..	..		42,564	10,874	2,940
1926	..	..		44,372	10,983	2,368
1927	..	..		46,360	11,468	1,888
1928	..	..		48,217	11,432	1,226

				Bombay		
				Per-centage	Per-centage	Per-centage
Year				Men	Women	Children
1921	..			77·96	20·49	1·55
1922	..			79·5	19·68	0·82
1923	..			79·09	20·46	0·45
1924	..			78·11	21·49	0·4
1925	..			77·67	22·15	0·18
1926	..			77·34	22·62	0·04
1927	..			77·88	22·1	0·02
1928	..			(General strike. Figures unreliable.)		

				Ahmedabad		
				Per-centage	Per-centage	Per-centage
Year				Men	Women	Children
1921	..			71·96	15·03	13·02
1922	..			71·3	16·05	12·65
1923	..			72·81	16·7	10·49
1924	..			74·98	17·97	7·05
1925	..			75·5	19·29	5·21
1926	..			76·87	19·03	4·1
1927	..			77·64	19·2	3·16
1928	..			79·21	18·78	2·01

Admission of Infants to Factories.

Considerable progress has been made in the prevention of infants entering factories. In the Bombay mills, infants were not

allowed to enter, but the custom prior to 1922 was fairly common in the mills of Sholapur and Ahmedabad. Crèche developments, together with the passing of a few orders, have led to considerable improvements in Ahmedabad and Sholapur. Few infants enter the mills at the latter centre, while the number has been considerably reduced in Ahmedabad.

Double Employment of Children.

As already pointed out, the Bombay mills have ceased to employ children. The system of certification in Ahmedabad was defective and up to 1923 double employment in the mills was fairly common. A special enquiry was conducted in 1920, and, as a result, Government appointed a full-time certifying surgeon in Ahmedabad in August, 1923. He immediately improved certification methods. The number of children employed in the Ahmedabad mills was reduced from 5,712 in 1923 to 3,750, 2,940, 2,368 and 1,888 respectively in the succeeding years. A considerable amount of double certification was thus prevented, but it was felt that some children were still obtaining two certificates and working in two mills.

Work and Training of Young Adults.

Very little is done to train young adults. A mill in Sholapur has started a technical school, while the Social Service League conducts a Textile Technical School at Parel, in Bombay City. The Bombay Victoria Jubilee Technical Institute has also attached to it a textile apprentice class for persons working in the mills.

System of Fining.

The system of making deductions from wages in respect of fines is general in the textile industry in all parts of the Bombay Presidency.

All textile mills in Bombay City have printed rules and regulations governing conditions of employment, dismissal with or without forfeiture of wages, fines, etc. Only three mills in Ahmedabad City reported the existence of such rules. In the mills in the remaining centres of the Bombay Presidency rules are occasionally found to exist.

As regards the extent to which fines could be inflicted in industrial establishments by persons in the position of foremen, jobbers, mukadams, etc., only one or two textile mills in Bombay reported that the power was delegated to jobbers. In many of the Ahmedabad mills this power rests with special employees, who are called "detectors." With the exception of these cases all the remaining factories and concerns reported that the power to fine rests with the heads of departments. In some cases a confirmation is required by the manager or superintendent-in-charge of the whole establishment. In the smaller concerns the proprietors, who act also as managers, reserve the power to themselves.

The offences for which fines are inflicted are generally breaches of discipline, insubordination, disobedience, bad or negligent work, careless or negligent loss or damage to tools or machinery, etc. In some cases special lists of further offences connected with the nature of the work undertaken are drawn up. Deductions made from wages in respect of *actual fines* for bad or negligent work

did not appear to cover the loss sustained by the employer with regard to the spoilt or damaged article, but appeared to be, in most cases (to quote the Government of India's letter) "*bona fide* fines inflicted as correctives."

Out of the 144 textile mills in the Presidency which furnished information on this subject, 84 mills, or 58.3 per cent., reported that deductions were made from wages in respect of material spoilt or damaged during manufacture and handed over to the workers concerned. In most cases the deduction was made at the price at which the article would have been sold had it not been spoilt or damaged, and only in a few cases at actual manufacturing cost or at a price intermediate between the cost and the selling value of the undamaged article.

All amounts realized in respect of these deductions were generally credited to the "Sales Account," except in the case of a few mills in Ahmedabad, where a certain percentage of such deductions were handed over to detecting folders in the making-up room.

Some mills require weavers to provide themselves with their own reed hooks and combs, and in cases where these are supplied by the mills their cost is recovered in cash or by deductions from the wages. The conditions governing such deductions, where they exist, are made known to the workers concerned prior to engagement.

Non-attendance is similarly punished in various ways. In the mills in Sholapur City the "double khada" rule is observed—loss of two days' wages for each day's absence without leave. This practice is also followed in various mills and factories in all parts of the Presidency. In some cases the penalty for continued absence without leave over a number of days (prescribed in most cases) is dismissal with or without forfeiture of wages. In some other cases absence without leave is punished by set fines. In almost all cases wages are not given for the days of absence.

Extent of Fining.

The following table shows the deductions made in respect of fines, together with the numbers of instances in which fines were inflicted in 45 textile mills in all parts of the Bombay Presidency employing an average daily number of 90,819 workers, comprising 68,754 men, 20,568 women and 1,497 children, with a total wages bill of Rs.2,63,89,592-14-8. Only 45 mills correctly gave the information in the detailed manner in which it is set out here.

Subject of Deduction	Number of instances in which fines were inflicted during the first ten months of the year 1926			Total amount of deductions made in respect of fines								
	Men	Women	Children	Men			Women			Children		
Fines for:												
(a) Breaches of discipline or establishment rules ..	14,782	6,332	44	Rs. 4,259	a. 3	p. 6	Rs. 1,161	a. 14	p. 3	Rs. 11	a. 10	p. 9
(b) Bad or negligent work ..	284,951	15,334	11	68,223	6	3	2,585	6	6	1	6	6
(c) Loss of and injury or damage to materials, tools, machinery or plant belonging to the employer	11,568	1,077	236	4,371	13	6	225	12	0	19	15	0
(d) Any other purposes than those enumerated in (a), (b) or (c)	6,928	1,911	932	1,432	12	9	185	6	6	115	13	0
Total	318,229	24,654	1,223	78,287	4	0	4,158	7	3	148	13	3

An examination of the above table shows that fines for offences connected with bad and negligent work predominated both in the case of men and women operatives, the proportions of instances under this head to the total number of offences for which fines were inflicted being 89.54 per cent. in the case of men and 62.20 per cent. in the case of women. The incidence of fines for bad or negligent work works out to 3 annas and 10 pies for offences committed by men and 2 annas and 8 pies for offences committed by women. This suggests that fines of this nature are, generally, *bona fide* fines inflicted as correctives, and not with a view to recompense the employer for damage sustained. An important caveat to this statement, however, is the fact that in the textile industry nearly 60 per cent. of the reporting mills hand over spoilt or damaged material to the workers concerned and recover the cost—generally at the selling price of the undamaged materials—from the workers' wages. This practice is dealt with in a subsequent paragraph; but it will be obvious that the real extent of the worker's financial loss depends upon the price he obtains for the article, and on that point no information was available.

Grouping these figures, it is found that in the case of 66 textile mills in Bombay City, employing 146,753 workpeople—comprising 113,506 men, 33,192 women and 55 children—with a total wages bill of Rs.4,73,83,399 for the first ten months of the year 1926, the total fines inflicted amounted to Rs.1,18,707, or 0.25 per cent. of the wages bill.

In the 30 mills in Ahmedabad which supplied similar information, the total amount of fines inflicted was Rs.1,02,488, as against a total wages bill of Rs.1,01,66,873 for 31,396 workers, comprising 24,170 men, 6,687 women and 1,139 children. The proportion of fines to wages in this case amounts to 1.01 per cent.

For 16 mills in Sholapur and other centres, employing 26,134 workers, comprising 18,390 men, 5,732 women and 2,012 children, with a total wages bill of Rs.49,80,528, the total amount inflicted in fines during the period covered was Rs.21,268, or 0.43 per cent. of the wages bill.

If the above figures are combined for all the textile mills in the Bombay Presidency, it is found that in 112 mills employing 204,283 workers, comprising 156,066 men, 45,011 women and 3,206 children, with a total wages bill of Rs.6,25,30,800, the total amount of fines inflicted was Rs.2,42,463, or 0.39 per cent. of the wages bill.

Utilization of Fines.

In Bombay City all deductions from wages in respect of fines, and the value of spoilt or damaged material handed over to the workers were made in the pay books from the gross wages payable, and disbursement was only made of the net wages due. In the case of fines, 67 out of 76 reporting mills stated that the amounts of fines were deducted from the gross wages bill, and only net wages actually payable were drawn from the bank for wage payments. The amounts for fines thus went to the reduction of the total wages bill. Out of the remaining nine mills, six mills reported that the amount recovered in fines was utilized for workmen's

welfare work. One mill had a special fines fund, to which all fines were credited. This fund is entirely used for welfare. One mill reported that it utilized fines not only for welfare but also for payments of gratuities to retiring operatives and heirs of deceased workmen. Another mill stated that it proposed to devote all fines collected for donations to various charitable objects. The total value of the deductions made in respect of spoilt material handed over to the workers was generally credited to the sales account, but in some cases the amount was considered as a reduction in the wages bill.

As in the case of the textile mills in Bombay, so also in Ahmedabad, amounts recovered in fines and deductions for the value of spoilt or damaged material handed over to the workers are not recovered after payment of gross wages have been effected, but are deducted from the gross wages payable, and net wages only are disbursed.

In Sholapur and other centres in all cases where deductions were made on account of spoilt material handed over to the workers the amount realized in such deductions was appropriated by the company either by crediting the amount to sales account or some other head of revenue. With regard to the disposal of fines, 17 mills credited the amount of fines to the wages account, and only two mills utilized the amount realized in connection with welfare work.

Loans to Operatives.

In the 1924 enquiry 56 per cent. of the mills were found to advance money to the workmen in times of difficulty, either against the Provident Fund or wages, at nominal or no interest, or through Co-operative Credit Societies, where the rates of interest varied from 9 per cent. to $18\frac{3}{4}$ per cent. per annum. In the 1926 enquiry 46 or 60.5 per cent. of the reporting mills stated that no advances were granted either directly by the mills or through privileged "pedhiwalas" or grain dealers, appointed or recognized by the mill authorities. Twenty mills or 26.3 per cent. of the reporting mills granted advances against wages due. Interest at 9 per cent. was charged in three cases, at one anna per rupee in two cases, and at half an anna per rupee in one case, in all cases up to next pay-day. In the case of "havala" tickets they were cashed at a discount of $3\frac{1}{8}$ per cent. The term "havala" requires to be understood. When a worker leaves the service of a mill before pay-day and has arrears of wages due to him at the time of leaving, he does not generally receive his wages in cash at once. Instead he gets a ticket on which the amount of wages due to him is entered. This ticket is called a "havala." The worker, if he remains in Bombay, can present the ticket for payment on the regular pay-day or ask one of his friends to collect the money and remit it to him in case he leaves Bombay. If the worker, however, requires the money at once, he presents the "havala" ticket to a pedhiwala (money-lender) or a grain dealer who is often both a retail merchant and a money-lender and cashes the ticket at a varying rate of discount. Eight mills permitted recognized grain dealers or pedhiwalas to grant advances to their workmen at specified rates of interest. In two cases the rate permissible was half an anna per rupee, in one

case one anna per rupee, and in four cases a quarter of an anna per rupee. One mill, which permitted a privileged money-lender to grant advances at one anna per rupee, prescribed that the interest which could be charged on "havala" tickets should be half an anna per rupee only.

In the case of the Ahmedabad mills only five out of the 49 reporting mills for the 1926 enquiry did not grant advances to their operatives. In the remaining 44 cases advances were granted, but only for bigger festivals such as Divali, Holi, etc., in five cases. In 26 mills no interest was charged. In the remaining 18 mills interest was charged at varying rates. In nine cases the rate charged was either three pies per rupee per fortnight or per month according as the worker concerned was a fortnightly or monthly employee. In one case it was two pies per rupee and in another $1\frac{1}{2}$ pies per rupee up to the next pay-day. In two mills the rate charged was three pies per rupee for fortnightly workers, and one anna per rupee for monthly workers. Two mills charged six pies per rupee—in one case per month and in the other up to the next pay-day. Three mills, however, charged one anna per rupee per "hapta" or per month, according as the workers concerned were fortnightly or monthly employees. It is interesting to observe that the rate of interest in these cases works out at 150 per cent. per annum in the case of loans given to fortnightly workers and at 75 per cent. in the case of loans granted to monthly workers.

In the mills in Sholapur and other centres, eight out of the 19 mills which furnished information for the 1926 enquiry reported that advances were normally granted on demand; in two cases only if the circumstances under which advances were asked for were considered to be sufficiently sound to warrant them, and in another case loans against wages due were given only before special festivals or holidays. In one case advances were made from the Provident Fund, provided that an employee who asked for such an advance was a subscribing member to the Fund. Interest was charged in three cases—at half an anna per rupee in one case, at one anna per rupee in another, and at a nominal rate of interest in a third. In the cases where advances were granted from the Provident Fund Account the rate of interest charged was $6\frac{1}{4}$ per cent.

Indebtedness.

Indebtedness prevails to a very large extent among industrial workers in the Bombay Presidency and other parts of India, and there is considerable statistical information available on the subject, mostly collected by the Bombay Labour Office during the course of its family budget investigations.

Of the families considered, no fewer than 47 per cent. were in debt. The extent of the indebtedness of the family in debt is ordinarily the equivalent of two and a half months' earnings respectively. The extremes were 14 months' and one-third of a month's earnings respectively. The usual rate of interest is one anna per rupee per mensem, or 75 per cent. per annum, and in a few cases 150 per cent. The interest is often not paid monthly, and the worker frequently does not know what his interest charges are. Some money-lenders obtain in fact even a higher rate than 150 per cent.

by taking promissory notes for larger amounts than the loan actually given.

As regards single men, for whom 603 budgets were collected, 45 per cent. were in debt, the average expenditure on interest being 12as. 3ps., and the average expenditure on interest for those in debt being Re.-1-11-2 per month.

The Ahmedabad worker is also heavily in debt. According to the Labour Office enquiry made in the year 1926, 69 per cent. of the families were in debt. The amount of debt varies from a few rupees to many times the monthly income. The most common rates of interest are from 12 to 24 per cent., but higher rates of interest are not unknown, and in fact in one case the rate of interest reported was as high as 225 per cent.

According to an enquiry made by the Labour Office in the year 1925 into the family budgets of cotton-mill workers in Sholapur City, 63 per cent. of the cotton-mill workers' families in Sholapur are in debt, the extent of which varies from less than a month's income to many times the monthly income. In 49 per cent. of cases, however, it is equal to between one and four months' income of the family. The rate of interest paid is between 36 and 42 per cent. in 40 per cent. of the cases. The highest rate of interest reported was 150 per cent. These conclusions regarding the heavy indebtedness of the working classes are confirmed by investigations made by social workers and the experience of the Commissioner for Workmen's Compensation.

In Bombay City money is usually borrowed either from a Marwari or from a Pathan. The Marwari generally lends money on good security, such as ornaments, utensils, etc. The Pathan, on the other hand, usually lends money on personal security only and charges a higher rate of interest than the Marwari. The Pathan's methods of collecting his debts seldom require him to have recourse to a Court of Law. In Ahmedabad and Sholapur money is usually borrowed from the local *sowcar*.

As regards the causes of indebtedness, it is difficult to generalize. The almost universal system of paying wages monthly means that the workers live on credit all the year round. A man taking up a job for the first time, or after a spell of unemployment or on return from a holiday, if his place has not been kept open for him, may have to wait for as long as six weeks before he draws any pay, for pay-day is usually ten days after the expiry of the month in which the pay was earned. It is easy for such a man to get into debt and be forced to borrow money to cover it. Once he gets into debt high interest charges usually keep him in debt. The extraordinarily high amounts which are spent on marriages and other ceremonials, however, account for the bulk of the money which the workers owe to the money-lenders. Social customs and religious observances are responsible for great waste of money, because the amount a working man spends on them is out of all proportion to his income. Drink, amongst those who do drink, often leads to indebtedness, while the available surplus on a working-man's budget leaves but a small margin for emergencies or extraordinary expenses.

Extent of Strikes and Lock-outs.

The total number of disputes during the period 1st April, 1921, to 30th June, 1929, amounted to 738. Of these, 22 were strikes affecting more than one industrial concern, as shown in the table below : —

	Number of factories and concerns affected
1. Strike in Ahmedabad (October 7, 1921).	6 Spinning and weaving mills
2. Do. do. (October 19, 1921 to October 29, 1921).	47 Do. do.
3. Do. do. (January 27, 1922 to January 28, 1922).	13 Do. do.
4. Do. Sholapur (March 2, 1922 to March 24, 1922).	6 Do. do.
5. Do. Karachi (March 10, 1922 to March 11, 1922).	5 Firms of stevedores.
6. Do. Bombay (August 1, 1922 to August 2, 1922).	34 Spinning and weaving mills
7. Do. Surat (October 3, 1922 to October 23, 1922).	4 Do. do.
8. Do. Ahmedabad (November 10, 1922 to November 17, 1922).	29 Do. do.
9. Do. do. (April 1, 1923 to June 4, 1923).	56 Do. do.
10. Do Karachi (April 16, 1923 to April 26, 1923).	6 Firms.
11. Do. do. (May 25, 1923).	6 Do.
12 General strike in Bombay (January 17, 1924 to March 25, 1924).	75 Spinning and weaving mills, 2 silk mills, 2 woollen mills and 2 dye works.
13. Strike in Sind (April 17, 1925 to June 30, 1925).	Carriage and loco shops and running shed, Karachi; fitting staff, Kotri; loco and carriage shop and engine shed, Sukkur.
14. General Strike in Bombay (September, 15, 1925 to December 3, 1925).	76 Cotton mills, 2 silk mills, 2 dyeworks.
15. Strike in Bombay (January 2, 1928 to February 25, 1928).	9 Spinning and weaving mills under the agency of Messrs. E. D. Sassoon & Co.
16. General Strike in Bombay (April 16, 1928 to October 6, 1928).	All spinning and weaving mills in Bombay, except the Colaba Land and the Jehangir Wadia Mills. 2 silk mills and one bleaching mill.
17. Strike in Sholapur Mills (April 21, 1928 to October 6, 1928).	5 Spinning and weaving mills
18. Strike in Kurla Mills (May 14, 1928 to October 6, 1928).	2 Do. do.
19 Strike in Bombay Oil Companies (December 7, 1928 to February 23, 1929).	3 Oil companies.
20. Strike in Bombay (February 25, 1929 to March 18, 1929).	7 Spinning and weaving mills
21. Strike in Bombay (March 3, 1929 to March 18, 1929).	5 Do. do.
22. Strike in Bombay (April 26, 1929, to Sept.)	64 Do. do.

General Effects of Disputes.

The general effects of all the 738 disputes which have occurred in the Bombay Presidency during the period 1st April, 1921, to 30th June, 1929, are shown in the two following tables (1) by localities and (2) by classes of industries:—

Locality	Total number of disputes in 8 years 3 months from April 1921 to June 1929		Total number of workpeople affected	Total number of working days lost
Bombay	...	401	1,077,927	49,297,817
Ahmedabad	...	221	135,200	2,605,087
Sholapur	...	10	39,484	1,214,434
Viramgam	...	8	3,705	32,854
Broach	...	22	8,966	85,022
Karachi	...	14	9,893	399,554
Jalgaon	...	7	4,445	56,990
Surat	...	12	4,840	35,254
Poona	...	11	3,763	40,903
Rest of the Presidency	...	32	21,288	181,399
Total	...	<u>738</u>	<u>1,309,511</u>	<u>53,949,314</u>

It will be seen from the above table that 401 or 54 per cent. of the total number of disputes occurred in Bombay City; 221 or nearly 30 per cent. occurred in Ahmedabad; and 116 or about 16 per cent. in the rest of the Presidency. Out of 1,309,511 workpeople affected in these disputes, 1,077,927 or a little over 82 per cent. were involved in Bombay City, and 135,200 or a little over 10 per cent. in Ahmedabad City. The total number of working days lost amounted to 53,949,314, out of which the time loss for Bombay City alone amounted to 49,297,817 working days or 91 per cent.

Out of the 401 disputes which occurred in Bombay City, 317 or 79 per cent. occurred in textile spinning and weaving mills.

Factory Inspection. Adequacy of Staff.

The full-time factory staff in the Bombay Presidency consists of the Chief Inspector of Factories, 3 inspectors, 3 assistant inspectors and 1 woman inspector. The Chief Inspector, 2 inspectors and 2 assistants have their headquarters in Bombay. An inspector and an assistant are stationed in Ahmedabad. The woman inspector has her headquarters in Bombay, but has jurisdiction over the whole Presidency. She deals with problems mainly affecting women.

Full-time certifying surgeons are stationed in Bombay and Ahmedabad. They have been appointed additional inspectors with powers under the health and sanitary sections of the Factories Act. They have also been granted powers under the provisions of the Maternity Benefit Act. The Director and Assistant Directors of Public Health have also been appointed additional inspectors

under the health and sanitary sections of the Act. Their reports, are sent to the Chief Inspector, who passes orders on the same.

Local magistrates have *ex officio* powers under the employment sections of the Act.

In writing about the welfare work of the cotton mills of India mention should be made of the fine work undertaken by Sir Sorabji B. Mehta, manager of Tata's Empress Mills, Nagpur, which, unfortunately, time did not allow me to visit. The programme which they have set themselves there is very much on the lines of those worked out successfully in Madras, described in the next few pages.

The two hospitals, which have been built by Sir N e s s W a d i a and his brother, Mr. C. N. W a d i a, one a *Maternity* and another a *Children's Hospital*, require to be mentioned here. They have contributed £400,000 towards the building and maintenance (endowment). These hospitals are up-to-date in every respect. A really fine piece of welfare work mainly for mill people, erected in memory of their parents.

The Y.M.C.A. in Bombay is doing good work in looking after the mill people, but their resources and their staff are too limited.



"Indian Textile Journal."

Playground of the Y.M.C.A. Hut, surrounded by the Mill Chawls, Bombay.
(Working Men's Dwellings.)

Welfare Work at the Mills of Binny & Co., Madras.

Whilst in Bombay, Ahmedabad, Cawnpore, Calcutta, Delhi and Nagpur efforts are being made to take up welfare work with a view to lifting the indolent and ignorant mill workers to a higher plane, the extent and the success which have been reached in these centres are insignificant in comparison with the achievements obtained in this direction by the Buckingham and Carnatic Mills, Madras, managed by Messrs. Binny & Co. The writer cannot help but point to this excellent work as an example for emulation, for he is convinced that the superiority of the output of the products of these mills must be in part accounted for by the higher standard of education and civilization reached by these workpeople. All the other welfare work which has come to the notice of the writer during his visit is merely a primitive beginning, and much more requires to be done if the Indian labourer is to become a greater help to the industry. It is work which, in a climate like that of India, is more necessary than in any other country.



Village Well, Madras.

1,600 children attend the schools, of which 900 are half-timers. A half-timer must attend $2\frac{1}{2}$ hours in the morning and 2 hours in the afternoon.

None but vaccinated and inoculated workpeople are allowed to reside in the mills' villages; a very important condition.

The teaching of the grown-ups consisted particularly in learning the English words of parts of machinery; models or actual parts were fastened on the wall right round the room and underneath, the

length of the wall, was a blackboard, on which the teacher explained the different parts and the operatives afterwards sketched them on these blackboards. This is indeed a drawing and English lesson combined, as well as instruction in mechanics.

The welfare work is under the management of two English ladies who have specialized in this branch, which was started about 1910 by Sir Clement Simpson, one of the directors of Messrs. Binny & Co. The general welfare work falls chiefly under the following heads: Educational welfare work, dispensaries and medical attention, gratuity fund and compensation allowance, workpeople's institutes, model villages for workpeople, savings banks, attendance bonus, privilege leave, workmen's stores, athletic society, dramatic society, kindergarten, baths, etc.

There is a special welfare committee, consisting of representatives of the management and of the workpeople, through which the workpeople themselves become more closely associated with the schemes and projects initiated for their benefit. Whilst this committee exists primarily as a medium for the ventilation of grievances on the part of operatives, and for the purpose of bringing to the notice of the management suggestions for the well-being of the workpeople in the mills, it has been encouraged to take also an active part in the broader aspects of welfare work outside the mills. By means of frequent meetings and frank and open discussions this committee can help to remove misunderstandings and bring about close association between the masters and men.

Educational Work. The school for half-timers and children of the operatives was originally started with about a dozen boys in the compound of the Buckingham Mill in 1904. It developed slowly until in 1908 the attention of the Indian Factory Commission was directed to it, who approved of the school but not of the site, maintaining that it should be outside the mill compound. In that year the Carnatic Mills also started a school in a bungalow. By 1912 the school had grown too big, and a joint school for the two mills had to be built, and, little by little, new wings and classrooms had to be added. It now consists of 23 classrooms. In addition a technical school, consisting of seven rooms, has been built. Whilst the school was intended only for half-timers, gradually their brothers came, and now a non-workers' section, where the children of the workpeople are taught, has been added.

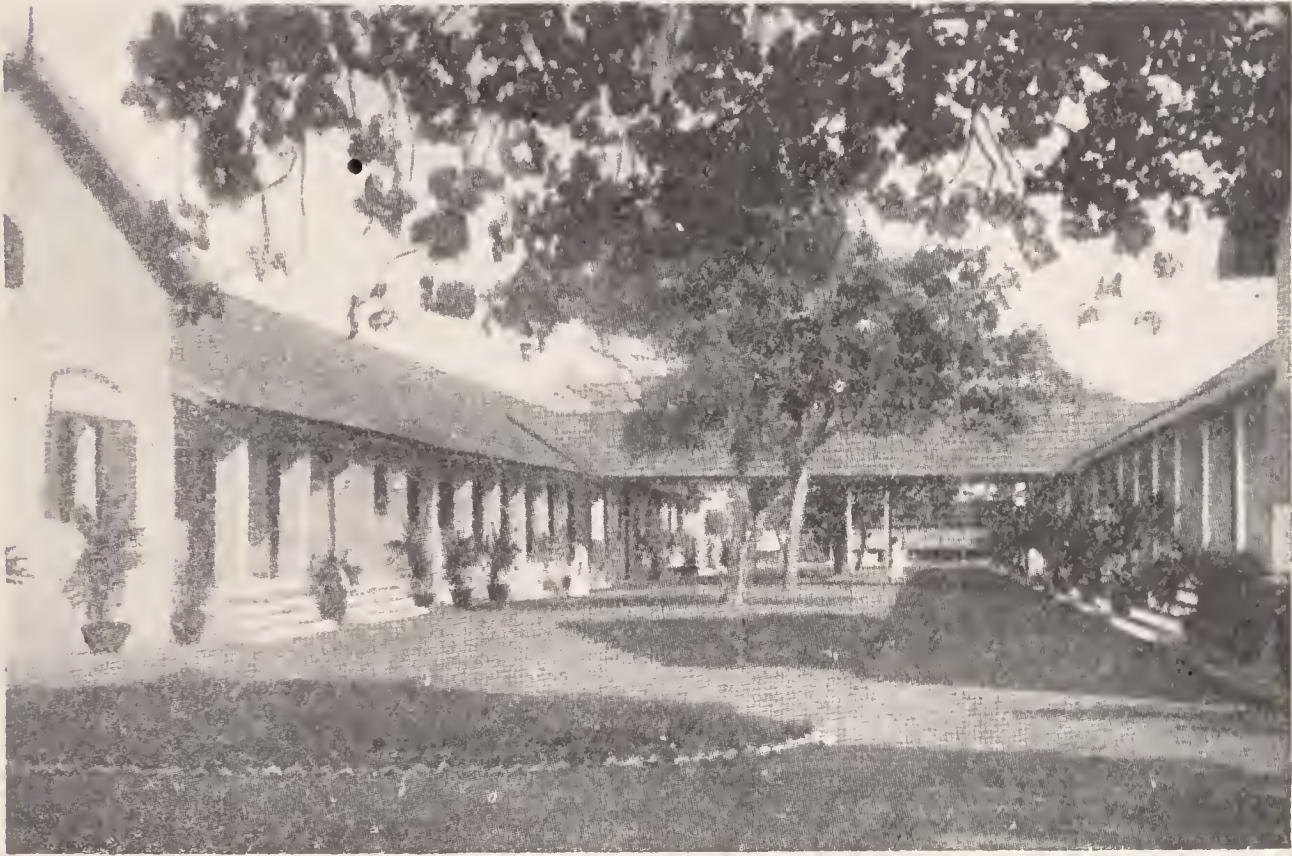
The school building is used in the evenings as a night school for adult workpeople. It is well lighted by electricity, and a special room has been fitted up for the teaching of machine drawing to young apprentices.

The total number of boys attending the day school is 1,300, of whom nearly 900 are half-timers, out of a total of about 1,000 half-timers employed in the mills. In the night school there are about 350 adult workers. The language of the school is Tamil, but there are special classes also for Mohammedan and Telugu boys. Both the day and night schools are under Government inspection and receive a Government grant.

WELFARE WORK

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In the day school the subjects taught to a half-timer are: vernacular reading and writing, English, arithmetic, drawing, drill, gardening, hygiene and moral principles.



Mills' Schools, Madras

In the technical school boys can learn shirtmaking, carpentry, blacksmith work, tinsmith work, turning, fitting and hand-loom weaving.



Classroom, Madras

The technical school was started with the idea of making the boys clever with their hands, so that they could use all sorts of tools, with a view to making up their minds what particular line they wished to follow later on.

All classes have to work in the technical school for three-quarters of an hour, twice per week, and each boy chooses the section in which he wishes to work. The technical school is also open to boys before and after school and on Saturdays.

English is introduced at an early stage in the school curriculum.

In the night school classes range from the first to the eighth standard. The subjects taught are: Tamil, Telegu, Hindustani, English, arithmetic, hygiene and civics. The teaching of hygiene is varied by lantern lectures on different subjects.

The three upper classes are continuation classes for boys who have passed through the day schools and wish to continue studies after having become full-timers.

Special Classes. There is a commercial class for young men who have passed the eighth standard and wish to learn typewriting, shorthand and more advanced English.

A crèche is not necessary in these mills as no women are allowed to work inside, but there is a nursery class attached to the day school, where children from three to five are left in charge of an ayah teacher while the elder brothers are attending school. The ayah teaches them to be clean and tidy and keeps them amused with toys and games and songs. When they are old enough they join the lower kindergarten class.

Midday Meal. One of the reasons why the children could not attend school was found to be that they lived too far away from the mill and could not get a midday meal if they attended the school. To overcome this difficulty this meal is now provided free of cost for all boys who attend the school and live over two miles away from the mill. I saw about 150 of these boys squatted down on the floor eating their rice and curry from a palm leaf, Hindoos separated from the Mohammedans.

Sick Boys' Meal. When the school came under the medical inspection of the mill doctor it was found that after a severe bout of fever boys came back to school looking weak and thin. On certification by the doctor these boys now receive a free meal of conjee, tea and bread every morning for a month or two, or until such a time as they regain their normal strength.

Cleanliness and Hygiene. Great attention is paid to the physical condition of the boys. Adequate bathing and washing places are provided for them, and the mill doctor inspects the school once a week.

Dispensary. There is a large dispensary attached to the mill school, quite apart from the dispensaries in the mills themselves. Here a whole-time nurse is in charge, and her duties are to attend to all boys sent from their classrooms for treatment for cuts, abscesses, skin diseases, etc. There is a place provided for sick boys to lie down if they are attacked by fever in school hours.

The women and children in the mill villages also attend the school dispensary for minor ailments.

Playing Fields. In the school compound there is a full-sized football field, a full-sized hockey field, badminton courts and an open-air gymnasium. There are also swings and see-saws for the juniors.

Games. Football is played by all the boys in the day school, and a sub-junior team takes part in inter-school tournaments. A cup was won by this team last year. When the boys become full-timers they join the Mills' Athletic Association.

Medical Attendance. Each mill has a dispensary in charge of a fully qualified doctor, who remains on duty from 6-30 to 8 in the morning. All medicines are supplied free. Sick workpeople are given leave by the doctors in charge of the dispensaries, and they get an allowance of more than half their daily wages. During the year over 10,000 cases were treated at the dispensaries.



School Bathing Tank, Madras

The families of the workpeople may consult the medical officer during dispensary hours and medicine is provided free. If an employee whose pay does not exceed Rs.50 a month is recommended by the medical officer to wear spectacles, half the cost of these is paid by the Company.

Owing to the increased demand for medical attendance, the managing agents have decided to appoint a full-time doctor.

Gratuity Fund. A gratuity fund was instituted in 1904 for the benefit of the employees of the mills. The workpeople make no

contribution to the fund. The Company's contributions are as follows :—

First Fund. A sum equal to 5 per cent. of the total wages earned by each employee is credited to his account in the fund at the end of every half-year, and the accumulated amount is payable at the end of 10 years' continuous service, or to the employee's nominee at death, if this occurs previously.

Second Fund. A sum equal to $7\frac{1}{2}$ per cent. of the total wages is credited to the workman, and the accumulated amount is payable at the end of seven years' service following the completion of the First Fund period.

Third Fund. A sum equal to 10 per cent. of the total wages is credited to the workman, and the accumulated amount is payable at the end of further five years' service.

If conditions have been satisfactory during the half-year, the management doubles the amount of the contribution.

Savings Fund. There is a savings fund to which employees can transfer the sum to their credit in the gratuity fund when payable, or make contributions, and from which the depositors are at liberty to draw the whole or any portion of the deposit at any time. Interest at the rate of 4 per cent per annum is added at the end of each half-year.

Perfect-Attendance Bonus. For every six months' continuous attendance, workpeople are given a perfect attendance bonus of Rs.2-8-0. For 18 months' perfect attendance an additional bonus of Rs.7-8-0 is given, and a certificate.

Privilege Leave. After completion of five years' continuous service, operatives are entitled to 15 working days' leave per annum on full pay.

Accident Compensation. In addition to the payment stipulated by the Factory Act, compensation is being paid.

Chutrams (Dining Rooms). Each mill is provided with a *chutram*, in which workpeople may cook and eat their meals and take rest. About 2,000 to 3,000 workpeople can be accommodated in each *chutram*, and there is separate accommodation for different castes of workpeople. They serve also as sleeping places for single men arriving from up-country until they have time to select their lodgings.

Housing. Owing to the unhealthy conditions in which many of the workpeople of the mills lived, and recognizing the necessity for accommodating them in houses built on sanitary lines, the director in 1914 inaugurated a housing scheme for the labourers. The actual construction of villages was started in 1916, and there are at present two villages attached to the mills, and situated close to them. The houses in both these villages are intended for the ordinary workmen who cannot afford to pay high rents outside, although a few experimental houses of an improved model have been built for maistries and writers. An attempt has been made to get away from the ordinary stereotyped hut-like building, which seems

to be universal in other parts of India. The rent is a nominal charge of Rs.1-8 a month, against Rs.5, Rs.6, and more in Bombay.

There is a village hall which is used for meetings to carry out the programme of workmen's councils, for propaganda work on temperance, child welfare, health and other matters.

Workers' Committees. Twenty-two representatives are elected by the workpeople, and the superintendent of the welfare work is ex-officio secretary of the committee. The managing director is the president. Two directors are patrons, the mill managers are vice-presidents, and four members of the management constitute the whole of the committee.

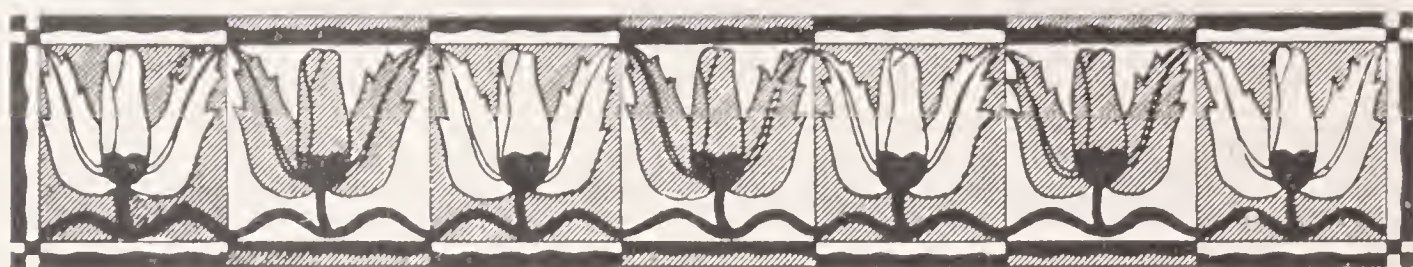
This committee meets every fortnight. The resolutions passed in the committee are given effect to only provided the managing agents give their assent to them. Reports on the activities of the different committees of welfare work, viz., the athletic association, the dramatic society, the workmen's stores and the villages, are read at these meetings.

The committee generally discusses matters affecting the interests of all labourers or of a considerable section of them. Matters of a particularly individual or departmental character are left to be settled by the labour representatives with the officers in charge of the departments, but the committee does not exclude business of an individual or departmental character from its deliberations. Members are free to bring up such matters as they deem necessary.

These meetings have largely contributed in removing misunderstandings and have brought about a wholesome atmosphere between masters and men.

Workmen's Stores. The workmen's stores were started with the object of providing the necessities of life to the workpeople at the cheapest possible rates. The managing agents have advanced the necessary capital for the purchase of foodstuffs, etc., besides constructing the building in which the stores are situated. The stores are managed by a committee consisting of representatives of the management and the workpeople. Two elected representatives of the workpeople are responsible generally for the selection of the commodities.





Wages in Cotton Mills

In the following Technical Chapter the wages ruling at the present time have been quoted in connection with the descriptions of the mill visits, and at the end of the Appendix will be found particulars of the actual wages paid, on the basis of the return by the mills, the total staff, the number of operatives per machine, etc.

As an outcome of the 1928 strike, the Bombay Mill Owners' Association has elaborated a uniform list of wages, but at the time of the writer's visit this standard list of wages had not been enforced, largely because the activities of the trade unions were almost suspended, and their help was necessary for the general introduction of these rates. It is hoped that by the autumn of 1930 this uniform list will be adopted throughout Bombay Island, and thus, at last, a uniform basis be established throughout the principal centre. When this takes place it will be published in the *INTERNATIONAL COTTON BULLETIN*, the official quarterly publication of the International Cotton Federation.

Wage fixation by negotiated agreements may be considered to exist in the Ahmedabad mills only so far as general increases or wage cuts are concerned. The basis wage rates differ from mill to mill.

The main object of this chapter is to give a few general remarks on the method of payment of wages and to show the variations that have taken place during the last nine years in Bombay Presidency, which, as has been pointed out before, represents 85 per cent. of the cotton industry of the country. Reliable Government data are at our disposal for this purpose.

WAGES IN COTTON MILLS

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AVERAGE DAILY EARNINGS IN COTTON MILLS—MEN.

Department and Occupation		Bombay			Ahmedabad			Sholapur		
		May, 1921	August 1923	July 1926	May 1921	August 1923	May 1926	May 1921	August 1923	July 1926
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Mixing and Waste Room :										
Jobbers and Mukadams	Time	1 10	5 1 10	5 1 9	5 1 1 0	1 4 8	1 2 7	0 14	1 1 0	8 0 13
Nawghanies	Time	1 2	2 1 2	9 1 2	2 0 11	9 0 15	8 0 14	7 0 11	4 0 12	8 0 12
Blow room :										
Jobbers	Time	3 6	8 3 10	9 3 8	8 1 13	7 2 1	11 2 6	5 1 14	3 1 12	6 —
Assistant Jobbers	Piece	3 9	9 4 0	4 4 2	8 —	—	—	2 10	10 2 11	8 —
Machine Attendants	Time	1 15	4 1 13	4 1 12	10 1 3	6 1 1	0 1 10	6 1 9	3 1 5	3 1 8
	Piece	2 3	5 2 5	4 2 9	6 —	—	—	—	1 11	0 —
	Time	0 14	9 0 14	10 0 15	2 0 12	11 0 14	10 0 13	10 0 10	5 0 10	9 0 11
Carding Room :										
Jobbers	Time	4 8	10 4 8	2 4 6	2 2 4	9 2 10	10 2 10	1 2 10	5 2 11	11 3 0
Assistant Jobbers	Piece	4 12	2 4 7	0 4 6	11 —	—	—	3 8	3 3 15	1 —
Grinders	Time	2 2	7 2 1	10 2 3	9 1 7	11 1 9	3 1 12	11 1 5	3 1 4	3 1 13
Strippers	Piece	2 9	4 2 9	1 2 9	0 8	—	—	2 2	8 2 5	1 —
Lap Carriers	Time	1 0	9 1 1	2 1 0	5 1 0	5 1 1	2 1 2	4 0 12	1 0 15	0 0 11
Fly Coolies	Time	0 15	11 0 15	10 1 0	1 0 13	8 0 14	7 0 14	3 0 11	6 0 11	10 0 13
Drawing Frames :										
Jobbers	Time	0 13	11 0 13	5 0 14	5 0 13	5 0 13	8 0 14	1 0 11	4 0 11	2 0 11
Tenters	Time	0 13	5 0 13	7 0 14	1 0 12	10 0 14	1 0 12	10 0 10	1 0 10	8 0 10
	Piece	3 4	9 2 12	3 3 7	5 2 1	3 2 0	4 1 10	6 1 2	6 1 3	4 1 5
	Piece	2 6	11 3 3	4 3 8	2 1 4	7 —	—	2 7	1 1 9	1 2 7
	Piece	1 4	6 1 4	0 1 4	8 1 1	2 1 0	3 1 1	3 0 11	3 0 11	7 0 12
Slubbing and Intermediate Roving Frames :										
Head Jobbers	Time	4 15	1 4 15	5 4 3	6 3 0	0 3 5	2 3 10	3 2 5	9 2 8	4 —
Assistant Jobbers	Piece	4 7	3 5 0	1 3 14	1 1 12	8 2 12	7 —	4 3	5 3 15	8 2 8
Slubbing Frame	Time	2 11	11 2 12	4 2 3	5 1 12	8 2 1	7 1 14	10 1 7	7 1 13	5 1 12
Tenters	Piece	2 14	1 2 11	1 3 0	8 —	—	—	2 5	11 2 9	4 —
Intermediate Frame	Time	0 15	7 1 6	6 1 3	10 0 13	5 —	—	—	0 11	9 —
Tenters	Piece	1 6	2 1 5	3 1 6	3 1 3	7 1 3	0 1 3	9 0 13	10 0 12	10 0 13
Roving Frame	Time	1 5	0 1 2	1 1 3	0 0 13	5 0 12	11 1 4	7 —	0 11	8 0 11
Tenters	Piece	1 5	1 1 3	1 1 4	6 1 1	3 0 15	11 1 1	2 0 13	2 0 12	3 0 12
Tenters	Time	1 2	6 1 1	4 1 1	10 —	—	—	—	0 13	10 0 13
Tenters	Piece	1 3	4 1 2	7 1 3	8 0 15	2 0 14	11 1 1	T. & P. 0	12 2 0	10 7 0
								1 0 8		11 4
Ring Spinning:										
Head Jobbers	Time	5 2	8 4 12	4 4 11	3 3 0	0 3 6	7 3 10	3 3 0	6 2 14	7 —
Assistant Jobbers	Piece	5 4	3 5 8	8 5 8	11 —	—	—	3 11	3 4 2	0 3 4
Doffer Jobbers	Time	2 12	10 2 11	8 2 7	5 1 13	3 2 0	4 1 9	4 1 14	0 1 15	4 2 14
Banders	Piece	2 7	7 2 4	0 2 15	10 —	—	—	2 9	3 2 11	1 2 5
Siders	Time	1 10	4 1 12	6 1 14	4 1 7	7 1 2	1 1 4	8 1 13	7 1 5	5 2 1
Doffer Boys	Piece	1 15	6 2 1	7 2 1	3 —	—	—	1 10	10 1 10	10 1 10
Tarwallas or Followers	Time	1 1	8 1 3	4 1 2	2 1 2	7 1 1	1 1 2	7 0 12	11 0 15	8 1 1
	Piece	1 5	11 1 5	3 1 8	9 —	—	—	—	—	—
Winding :										
Pirn Winders	Time	1 3	0 0 13	9 0 15	6 1 0	1 0 13	7 0 15	3 0 8	0 0 7	10 0 7
	Piece	0 14	6 0 15	3 1 2	0 0 11	1 0 12	4 —	0 11	6 0 9	8 —
Warping :										
Warpers	Time	1 12	8 1 9	1 1 13	10 1 11	6 1 12	1 2 5	7 1 4	0 0 14	6 —
Creelers	Piece	2 1	3 1 15	11 2 1	9 2 3	1 2 2	11 2 1	7 1 12	7 1 14	3 1 12
	Time	0 12	11 0 12	11 0 13	2 0 13	6 0 14	1 0 10	7 0 9	5 0 9	10 0 9
Sizing :										
Front Sizers	Time	3 3	6 3 2	11 3 1	8 1 15	11 1 14	0 1 13	7 1 15	3 1 14	10 1 9
Back Sizers	Piece	2 14	6 2 15	0 2 15	9 1 14	8 1 12	1 —	—	—	—
Drawing-in :	Time	1 8	7 1 8	10 1 9	9 1 1	0 0 15	6 0 15	9 1 1	8 1 1	2 1 0
Head Jobbers	Piece	1 9	11 1 7	5 1 8	4 0 13	11 0 15	11 —	—	—	—
Drawers	Time	2 10	8 2 12	4 3 5	2 1 4	1 1 11	4 1 0	8 1 14	11 1 11	10 1 8
Heald and Reed	Piece	1 8	3 1 12	11 1 13	4 1 8	3 1 6	8 1 13	1 1 4	2 1 5	10 1 5
Repairs	Time	1 3	11 1 2	1 1 3	4 0 14	6 1 1	3 1 1	11 0 12	1 0 11	3 0 10
Weaving :										
Head Jobbers	Time	6 15	0 6 7	6 6 6	7 4 14	11 5 7	2 5 15	7 2 4	1 1 15	10 —
Line Jobbers	Piece	6 2	11 6 11	6 7 6	11 5 10	0 5 1	3 6 8	4 5 0	7 4 11	11 3 7
	Time	3 5	5 3 11	8 2 10	1 2 14	5 2 14	3 —	1 9	8 1 11	0 —
	Piece	3 14	11 4 1	6 4 8	7 3 14	11 4 2	8 3 15	3 3 1	8 3 1	8 1 11

AVERAGE DAILY EARNINGS IN COTTON MILLS—MEN.—*continued.*

Department and Occupation			Bombay			Ahmedabad			Sholapur		
			May, 1921	August 1923	July 1926	May 1921	August 1923	May 1926	May 1921	August 1923	July 1926
Weavers :			Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Two looms..	..	Piece	1 10	2 1 11	3 1 13	4 1 10	11 1 10	5 1 13	5 1 7	6 1 9	4 1 9
Four looms	..	Piece	2 9	1 2 9	3 2 14	2 2 10	5 3 1	1 3 6	4 —	3 13	7 3 6
Calendering :											
Head Jobbers	..	Time	2 10	4 2 12	0 2 12	2 1 11	8 1 15	4 2 6	4 1 14	9 1 2	1 —
Assistant Jobbers..	..	Time	1 13	9 1 10	9 1 11	10 1 6	0 1 2	5 1 6	0 1 9	0 —	—
Front Calendermen	..	Time	1 1	4 1 1	6 1 1	2 0 14	8 0 14	7 0 14	0 0 11	7 0 10	10 —
Back Calendermen	..	Time	0 15	6 0 15	3 1 0	0 0 14	3 0 14	4 0 14	5 0 10	9 0 10	4 —
Yarn Bundling and Baling:											
Scalemen ..	..	Time	1 3	4 1 2	4 1 3	2 0 14	9 1 2	1 1 0	10 0 10	3 0 10	9 0 11
	..	Piece	1 12	10 1 8	3 1 4	0 —	1 0 1	—	1 0 4	0 12	10 —
Knotters ..	..	Time	1 1	1 1 3	1 1 3	10 1 3	3 1 1	3 0 15	7 0 9	5 0 13	8 0 12
	..	Piece	1 9	0 1 5	1 1 2	5 1 8	2 1 12	0 —	0 13	11 0 12	6 0 14
Pressers ..	..	Time	1 4	9 1 7	2 1 1	10 1 2	9 1 2	0 1 1	2 —	0 14	1 0 13
	..	Piece	1 12	1 1 8	6 1 4	2 1 6	0 1 0	0 —	0 15	3 0 13	10 1 1
Bundle Wrappers..	..	Time	0 13	7 0 13	7 1 0	5 0 14	2 0 12	8 0 14	0 0 8	1 0 9	5 0 10
	..	Piece	1 1	7 0 15	3 1 7	2 1 9	10 2 0	0 —	0 11	2 0 10	8 0 8
Cloth Folding, Baling and Finishing:											
Head Jobbers	..	Time	2 11	11 2 12	10 3 6	11 1 7	5 1 6	4 1 7	6 2 7	2 2 4	6 2 5
Front Folders	..	Time	0 15	1 0 15	8 0 15	9 1 1	5 1 1	6 0 15	9 0 11	9 0 13	6 0 11
Back Folders	..	Time	0 14	1 0 15	0 0 15	0 1 1	6 0 15	2 0 15	1 0 11	6 0 11	3 0 11
Bundlers ..	..	Time	0 14	10 0 15	3 1 0	1 0 14	4 0 14	3 0 13	8 0 9	7 0 9	10 0 10
Stampers ..	..	Time	1 1	5 1 1	8 1 1	3 1 1	11 1 1	1 1 1	5 0 10	11 0 11	2 0 11
Engine and Boiler :											
Sarangs ..	..	Time	2 0	0 2 1	1 2 1	10 —	2 4	8 1 5	10 1 6	3 1 7	2 1 14
Engine Drivers	..	Time	3 8	11 3 9	9 4 3	10 1 9	2 1 9	1 1 11	1 1 8	11 1 7	1 3 11
Splicers ..	..	Time	1 9	4 1 10	10 1 8	4 1 6	10 1 6	5 1 9	5 1 8	4 1 5	7 2 0
Firemen ..	..	Time	1 3	11 1 5	8 1 5	4 1 7	9 1 7	1 1 7	1 0 14	8 0 15	5 1 3
Electrical :											
Electricians	..	Time	3 15	0 4 0	9 5 0	4 2 3	4 3 0	1 2 9	0 2 0	6 2 10	7 2 10
Wiremen ..	..	Time	2 7	9 2 10	6 2 5	5 2 2	6 2 5	0 1 15	4 0 15	9 1 1	6 1 6
Mechanics :											
Foremen ..	..	Time	6 3	3 6 6	11 7 2	4 3 13	0 4 2	8 3 10	4 3 5	10 3 14	10 5 4
Turners ..	..	Time	2 6	6 2 8	7 2 13	2 1 11	8 2 1	1 2 6	7 1 6	6 1 6	10 1 8
Pattern Makers	..	Time	3 0	7 3 2	6 3 1	3 2 3	3 2 6	1 2 15	1 1 9	4 1 14	1 2 3
Blacksmiths	..	Time	2 10	8 2 11	7 2 10	6 1 12	1 2 3	9 2 5	3 1 8	0 1 7	1 2 0
Blacksmith Strikers	..	Time	1 1	1 1 1	9 1 1	4 1 0	2 1 4	0 1 2	10 0 11	10 0 12	0 0 15
Tinsmiths ..	..	Time	2 1	10 2 4	6 2 9	2 1 11	6 2 0	10 2 2	0 1 3	4 1 6	5 1 11
Masons ..	..	Time	2 0	11 2 2	1 2 1	0 2 0	2 2 5	3 2 5	4 1 9	1 1 1	2 1 1
Moulders ..	..	Time	2 12	9 3 4	6 2 12	4 1 14	6 1 11	1 2 2	7 1 9	10 2 0	4 2 3
Assistant Moulders	..	Time	1 15	9 2 1	6 2 3	10 1 0	1 1 3	9 1 4	1 1 5	4 1 3	5 —
Ramosees or Sepoy Department and Odd Hands :											
Jamadars ..	..	Time	1 4	9 1 6	5 1 8	7 0 15	11 1 3	2 1 3	4 1 1	1 1 5	11 1 4
Sepoys ..	..	Time	0 13	2 0 14	1 0 15	9 0 10	0 0 11	5 0 12	0 0 9	6 0 10	6 0 11
Miscellaneous :											
Mukadams..	..	Time	1 11	1 1 11	1 1 11	6 1 2	2 1 4	7 1 4	8 1 2	1 1 1	0 0 12
Carpenters	..	Time	2 5	3 2 5	5 2 4	11 2 0	7 2 7	2 2 6	1 1 8	2 1 4	6 1 6
Fitters ..	..	Time	2 9	8 2 12	8 2 11	9 1 12	10 2 2	7 2 5	0 1 5	10 1 6	10 1 9
Oilers ..	..	Time	1 1	1 1 2	9 1 2	6 1 4	1 1 2	9 1 2	7 0 11	10 0 14	5 0 13
Mochies ..	..	Time	1 1	1 1 2	4 1 2	0 1 7	9 1 8	10 1 9	7 0 12	8 0 13	5 0 12
Coolies ..	..	Time	0 15	3 0 15	5 0 15	11 0 12	6 0 14	1 0 14	1 0 10	8 0 10	7 0 11
Sweepers ..	..	Time	0 12	0 0 12	4 0 13	6 0 11	5 0 12	9 0 13	3 0 8	7 0 11	4 0 10

AVERAGE DAILY EARNINGS IN COTTON MILLS—WOMEN.

Department and Occupation (1)		Bombay						Ahmedabad					
		May, 1921			August, 1923			July, 1926			May, 1921		
		(2)			(3)			(4)			(5)		
		Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
Mixing and Waste Room :													
Waste Pickers	.. Time	0	8	5	0	8	4	0	8	8	0	8	10
Ring Spinning :													
Siders	.. Time	0	14	7	0	15	2	0	15	2	0	14	5
Doffers	.. Time	0	10	11	—			0	11	5	—		
Winding :													
Naikins	.. Time and Piece	1	11	3	1	12	0	1	12	0	0	12	8
Grey Winders	.. { Time	0	11	10	0	11	10	0	11	2	0	13	0
	.. { Piece	0	12	2	0	12	3	0	11	9	0	11	1
Colour Winders	.. { Time	0	11	10	0	12	2	0	10	1	0	13	0
	.. { Piece	0	12	2	0	13	7	0	14	11	0	11	1
Reeling :													
Reelers	.. { Time	0	11	10	0	11	1	0	7	11	0	8	6
	.. { Piece	0	13	6	0	12	6	0	10	11	0	15	0
Miscellaneous :													
Coolies	.. Time	0	12	7	0	11	3	0	9	6	0	9	6
Sweepers	.. Time	0	8	3	0	8	8	0	8	8	0	9	7

Department and Occupation (1)		Ahmedabad						Sholapur					
		August, 1923			May, 1926			May, 1921			August, 1923		
		(6)			(7)			(8)			(9)		
		Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.	Rs.	a.	p.
Mixing and Waste Room :													
Waste Pickers	.. Time	0	8	11	0	8	5	0	5	5	0	6	2
Ring Spinning :													
Siders	.. Time	0	14	11	0	15	1	0	10	9	0	9	10
Doffers	.. Time	—			0	10	5	—			—		
Winding :													
Naikins	.. Time and Piece	0	14	0	0	15	5	0	10	11	0	11	9
Grey Winders	.. { Time	0	10	9	—			—			0	7	6
	.. { Piece	0	12	2	0	11	9	0	7	5	0	5	4
Colour Winders	.. { Time	0	10	9	0	8	6	0	6	3	0	8	8
	.. { Piece	0	12	2	0	14	6	0	5	11	0	6	10
Reeling :													
Reelers	.. { Time	0	11	2	0	9	7	0	5	11	0	6	1
	.. { Piece	0	12	7	0	14	5	0	5	11	0	6	0
Miscellaneous :													
Coolies	.. Time	0	11	9	0	9	9	0	7	1	0	6	11
Sweepers	.. Time	0	10	1	0	9	2	0	4	11	0	5	7

The Government Report adds, in explanation of these figures:—

In arriving at the figures for daily average earnings, wages for regular work only were considered, and overtime earnings and wages earned by “double substitute” work were excluded; but all additions to the “basic” rates, such as percentage dearness allowances and bonuses were included.

There is a very wide variation in the systems adopted at

different centres with regard to the methods of calculating wages. In the case of the mills in Bombay City there is first a "basic" rate, to which is added a dearness allowance of 80 per cent. for male piece workers and 70 per cent. for male time workers and all female workers. Those mills which pay a good attendance bonus add the amount of the bonus granted to the gross wage, from which are deducted any fines that might be inflicted before arriving at the net wage payable. The term "basic" in the case of the Bombay mills may be generally considered to apply to the pre-war year, although in the case of some individual mills it might apply to any year between 1913 and 1918, when the first increase of 15 per cent. as a dearness allowance was granted. In the case of the Sholapur mills there is also the same distinction between the "basic" rate and the dearness allowance; but the bonus for good attendance is granted in the form of the right for all operatives who have not been absent for more than four days in the month to purchase a certain quantity of grain, at a certain price, which varies as between jobbers, weavers and half-timers. For all practical purposes, however, it may be considered as the right to purchase twenty seers of grain, which cost about Rs.3-8-0, for Rs.2. The effect of this is that all workers who have not lost more than four days in a month on account of absenteeism receive the equivalent of about Rs.1-8-0. No account was taken of this in 1921 and 1923 enquiries, but in the 1926 enquiry the Sholapur mills were requested to indicate specifically all those workers who exercised this right. With the assistance of the mills concerned the gain to the worker was valued and the cash equivalent was added to the monthly earnings. The average daily earnings in the case of Sholapur for the 1926 enquiry, therefore, includes the benefit gained as a result of the grain allowance.

In the Ahmedabad mills there is not only a complete lack of uniformity in the methods adopted in calculating the different additions and deductions before arriving at the final earnings, but wide variations in the methods adopted also exist for different classes of workers in a particular mill. In the first place there is what is hypothetically called a "basic" rate. The term "basic" does not apply to any particular period for the whole industry. It varies as between groups of occupations and also between mills and mills. In the case of some occupations the term may relate to the pre-war year. In the case of others it may relate to any other year. But for particular occupations covered by the awards of Arbitrators it relates to the date on which an award for a percentage or a flat rate of increase was granted. Next to the "basic" rate comes the *Moghvari* or dearness allowance. In the case of certain occupations, and generally in the case of monthly paid workers, this allowance was consolidated with the basic rate, and in others it was kept as a separate item on the muster. Some mills consolidated one or two of the first increases, but kept the subsequent increases separate. In the case of some occupations it was given in the form of a percentage on the basic rate, and in others it was granted in the form of flat money values, say Rs.2 or Rs.3 per month, or at so much per Hapta or at so much per week—the variations even here being considerable. Next to the *Moghvari* allowance comes the deduction of 15½ per cent. for the general wage-cut effected in the year 1923.

Here also there is a wide variation in the method of its treatment. In the case of some occupations $15\frac{5}{8}$ per cent. is deducted from the total arrived at after adding the *Moghwari* allowance to the basic rate; in others it is deducted from a consolidated wage—the term “consolidated” in this case relating only to the consolidation of the basic rate with the allowance—and in still others there are flat consolidated rates without the addition of the allowance to a basic rate and the deduction for the percentage cut effected in 1923. Lastly, there is a good-attendance bonus, which always takes the form of a flat money value. It is true that the majority of the Ahmedabad mills grant such a bonus to process operatives on time rates, but there are some mills where no such bonus is given. The amount of the bonus where it is given is not uniform in all mills, even for the same occupation. In some cases it is computed at so much per month, and in others at so much per Hapta or so much per week.

Present Daily Wages.

The files of a Government official show the following in the mills of the Bombay Presidency :—

		Men		Women		Big Lads		All Workers
Bombay City	...	1-7-2	...	0-12-5	...	0-12-3	...	1- 4-2
Ahmedabad	...	1-6-2	...	0-12-9	...	0-11-4	...	1- 3-10
Sholapur	...	1-0-0	...	0- 6-4	...	0- 9-1	...	0-12-9
Baroda	...	1-0-6	...	0-10-10	...	0- 8-0	...	0-15-3
Other centres	...	1-0-1	...	0- 8-2	...	0- 8-8	...	0-14-0
Bombay Presidency	...	<u>1-5-9</u>	...	<u>0-11-7</u>	...	<u>0-11-4</u>	...	<u>1- 3-0</u>

Present Wages in Ahmedabad.

There is not a uniform list of wages in existence in Ahmedabad, but the following rates of weaving wages seem to be paid by the more important mills.

STANDARD LIST OF WAGES AS PER LOOM SPACE ON 40 REED 20's 30's IN THE MOST IMPORTANT MILLS OF AHMEDABAD.

	Picks	24	28	32	36	40	44	48	52	56	60	64
Width, ins.												
66	...	1.74	2.03	2.32	2.61	2.90	3.19	3.48	3.78	4.07	4.35	4.64
60	...	1.062	1.89	2.16	2.43	2.70	2.97	3.24	3.51	3.78	4.05	4.32
56	...	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.24	3.49	3.75	4.00
52	...	1.38	1.61	1.84	2.07	2.30	2.53	2.76	2.99	3.22	3.45	3.68
48	...	1.29	1.505	1.72	1.935	2.15	2.365	2.58	2.795	3.01	3.225	3.44
42	...	1.11	1.295	1.48	1.665	1.85	2.035	2.22	2.405	2.59	2.775	2.96
36	...	1.05	1.225	1.40	1.575	1.75	1.925	2.10	2.275	2.455	2.625	2.80

Plus 33 per cent. and 5 per cent.

EXTRAS.

Per cent.

- 2½ More or less for reed more or less.
- 6 More for 30's 40's warp weft.
- 8 More for 40's 60's warp weft.
- 5 More for 20's to 22's weft.
- 10 More for 16's weft.
- 15 More for 12's weft.
- 10 More for Sushi. (Striped shirting).
- 10 More for dobby fancy ordinary.
- 15 More for 1-in. fancy.

EXTRAS—*continued*.

Per cent.

20	More for 1-in. Pancha fancy.	
30	More for artificial Sushi. (Warp artificial silk.)	
10	More for $\frac{1}{2}$ and $\frac{1}{2}$ Gaghrapat border.	
10	More for 10's warp.	
4	More for $\frac{3}{4}$ -in. Patti border.	
6	More for 1 $\frac{1}{4}$ -in. Patti border.	
8	More for 1 $\frac{1}{2}$ -in. Patti border.	
10	More for 2-in. Patti border.	
14	More for 3-in. Patti border.	
10	More for dobby 3 shafts.	
12	More for dobby 4 shafts.	} Over and above 4-shaft plain.
16	More for dobby more than 4 shafts.	
8	More for finding the broken pick only.	
10	More for dobby heading.	
5	More for split if the blade is used.	
7 $\frac{1}{2}$	More for two splits if the blade is used.	
3	More for 30's 30's warp weft.	
4	More for Chader Chul Subra Bangalore Patti, etc.	
0.25	More for dhootie heading.	
0.50	More for Chola ordinary and Bangalore heading.	
Over and above these rates 33 per cent. and 5 per cent. to be given.		

I obtained from the books of one of the best Ahmedabad mills the following averages actually paid to the workers. The wages are given per month, though the mills all pay fortnightly, contrary to Bombay, where monthly payments are in vogue:—

					Rs.
Blow-room jobber	...	...	...	...	60- 0-0
„ finisher	...	...	...	...	26-13-6
„ intermediate	...	...	...	...	26- 8-6
„ exhaust	...	...	...	...	26- 8-6
Mixing men	...	...	...	...	30- 0-0
Lap Carrier		Stripper		Grinder	
26-13-0		26-7-8		31-0-0	
Sweeper		Can Breaker		Drawing Tenter	
24-0-0		26-8-6		40-0-0	
Slubbing		Intermediate		Roving	
40-0-0		36-0-0		33-0-0	
Head Card Jobber					
73-0-0					
					Rs.
Ring frame jobber	...	...	...	...	85-0-0
Oilmen	...	...	...	...	32-0-0
Ring tenters	...	...	...	...	25-0-0
Ring doffers	...	...	...	...	19-0-0
Winders	...	...	...	...	20-0-0
Reelers	...	...	...	...	24-0-0
Warpers	...	...	...	...	60-0-0
High-speed warpers	...	...	...	...	105-0-0
Weavers	...	...	...	...	56-0-0
Sizers	...	...	...	...	68-4-0
Drawers-in	...	...	...	...	60-0-0

The boys helping the drawers-in receive Rs.20 from the mill and Rs.10 from the drawers-in.

Jobbers in the weaving departments receive 10 per cent. of the wages earned by the weavers.

Reeling Jobbers Rs.30.00.

For night work the mill from which I obtained these wages paid 20 per cent. extra, but some mills pay only 10 per cent. extra for night work.

(The wages of the high-speed warper looking after one machine seem extremely high, but as the high-speed warping mill produces 90,000 yards per 10 hours against 20,000 for counts 20's, 24's and 40's, it is still an economical investment.)

Piece rates are in force for the drawing, slubbing, intermediate, roving frames, winders, warpers, weavers and drawers-in.

Wages in South Madras (1930) per Month.

Department and Occupation	No. 1 Rs. as.	No. 2 Rs. as.	No. 3 Rs. as.	No. 5 Rs. as.
BLOW ROOM :				
Head Jobber	30 0	25 0	25 0	41 8
Asst. Jobber	—	—	19 7	—
Oilman	15 0	15 0	16 5	16 5
Cotton Carriers	11 12	15 12	15 7	15 7
Cotton Feeder	10 8	—	15 7	15 7
Hopper Feeder	11 12	15 0	15 7	15 7
Breaker, Scutcher Tenter ..	12 4	15 0	16 5	16 5
Inter Tenter	12 4	15 0	16 5	16 5
Finisher Tenter	12 4	15 0	16 5	16 5
Willow Machine	13 0	15 0	15 7	—
Bondas Machine	11 12	—	—	—
CARD ROOM :				
Head Jobber	36 8	25 0	31 0	40 0
Asst. Jobber	22 8	22 0	25 12	25 0
Oilman	15 0	14 0	14 9	14 9
Grinder	17 0	Hd. 36 0	—	—
		Asst. 18 0	20 10	20 10
Strippers	16 0	18 0	20 10	20 10
Lap Carriers	13 0	—	14 9	14 9
Fly Gatherers	—	—	13 12	13 12
		F. 10 0		
Can Boys	10 0	M. 12 8	12 0	10 5
Mochi	19 0	—	27 8	15 0
Sweeper	8 0	—	13 12	10 5
DRAWINGS :				
Drawing Maistry	18 0	18 12	Same Jobber 19 0 as speeds	
Drawing Tenters	A 12 4	F. 12 8 M. 15 12	14 9	14 9

A.—Piecework rate 9½ pies per hank. F.—Female. M.—Male.

Department and Occupation	No. 1 Rs. as.	No. 2. Rs. as.	No. 3 Rs. as.	No. 5 Rs. as.
FRAMES :				
Head Jobber	37 8	48 0	39 3	45 0
Asst. Jobber	25 0	33 0	25 12	19 0
Oilman and Asst. Jobber ..	21 4	—	*13 12	*13 12
Slubbing Tenters	A. 14 4	15 12	17 3	17 3
Inter Tenters	B. 12 14	15 12	16 5	16 5
Roving Tenters	C. 13 6	15 12	16 5	16 5
Inter Back Tenters	8 8	—	12 0	10 5
Doffers	7 0	8 12	12 0	10 5
Sweepers	8 0	12 0	13 12	13 12
Full Bobbin Carriers	11 12	13 12	14 9	13 12
Empty Bobbin Carriers	10 0	12 8	14 9	13 12

Department and Occupation	No. 1 Rs. as.	No. 2 Rs. as.	No. 3 Rs. as.	No. 5 Rs. as.
RING FRAME :				
Head Jobber	46 0	63 0 68 0	61 14	52 8
Asst. Jobber	38 0	53 0	34 0	—
Side Jobbers	20 0	18 12	24 1	24 13
Doffer Jobbers	20 0	16 8	18 4	19 11
Oilers	*2 19 0	12 8	12 14	12 14
Banders	—	—	17 3	17 3
	9 6 F.			
Piecers (Full Time)	9 12	8 12	11 2	11 2
Piecers (Half Time)	—	—	—	—
Doffers (Full Time)	6 4	—	—	—
Doffers (Half Time) a.m.	—	4 6	5 10	5 10
p.m.	—	4 6	6 0	6 0
Empty Pirn Carriers	8 0	13 0	13 12	13 12
Bondas Pickers	8 0	—	—	—
Mochi	16 0	—	27 8	25 0
A., B., C.—Piecework. F.—Female. * Oilmen only. *2—Oiler and Bander.				

Department and Occupation	No. 1 Rs. as.	No. 2 Rs. as.	No. 3 Rs. as.	No. 5 Rs. as.
REELING :				
Overseer	24 8	21 8	25 0	35 0
Woman Maistries	15 0	—	—	—
Carpenter	17 6	—	27 8	18 0
Reclers	8 8	9 12	13 0	12 0

BUNDLING AND BALING :

Maistree	18 0	34 0	22 0	20 0
Baling Pressmen	14 0	18 12	17 3	20 0
Bundle Pressers	12 0	15 0	17 3	20 0
Knotters	11 0	12 8	15 7	15 7
Weigher	12 0	12 8	16 5	18 0
Puncher	—	12 8	14 9	14 9
Counter	—	12 8	13 12	13 12
Ticket Boy	10 0	12 8	12 14	13 12

COTTON :

Bora Stitchers	14 0	—	—	—
Weigher	15 0	—	—	—
Picker Women	8 0	—	—	—
Mixing Coolies	—	—	—	—

ENGINE AND BOILER :

Rope Splicer	35 0	—	—	35 0
	15 0	—	—	—
Driver	25 0	—	—	40 0
Oilman	15 0	—	—	23 0
Boiler Attendant	23 0	—	—	—
Firemen	22 8	—	—	22 0
Head Coal Coolie	18 0	—	—	—
Coal Coolies	15 0	—	—	18 0

MECHANIC :

Head Fitter	35 0	—	—	45 0
Boiler Fitter	25 0	—	—	25 0
Turner	25 0	—	—	36 0
Blacksmith	25 0	—	—	41 0
Asst. and Stricker	15 0	—	—	23 0
Tinsmith	20 8	—	—	35 0
Boy Asst.	6 0	—	—	—
Moulder	28 0	—	—	26 0

WAGES IN COTTON MILLS

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Two other South Madras mills reported as follows:—

(a) (•) Monthly earnings of :—						
(a) Ring tenters	Rs.16 and Rs.23
(b) Winders	..	..	..	..	..	.. about Rs.13
(c) Warpers	..	..	..	..	..	.. „ Rs.35
(d) Weavers	..	..	..	..	..	.. „ Rs.31
(2) Production of 20's twist :—						
7 oz. per spindle per 10 hours.						
20 turns per inch.						
65 lbs. breaking strain.						
(b) (1) Average monthly wages :—						
(a) Ring tenter (children or young persons)						Rs. 13 to Rs.13-10-0
(b) Winder (children or young persons)	..					Rs. 13 to Rs. 14-8-0
(2) Average production for 20's twist ring per spindle in 10 hours oz.						
No. of twist per in.	..	..	..	..	..	.. 16.8 to 17.2
Breaking test in lbs.	..	..	..	..	..	.. 65

For 223,288 ring spindles and 1,152 mule spindles there were employed 7,169 operatives, receiving a monthly wage of Rs.123,336 and producing 1,717,400 lbs. of 2's/44's.

Production per spindle, 7.9 ozs.

Operatives per 1,000 spindles, 31.94.

One shift of 10 hours' work ; there is a fixed interval of one hour.

Bonus System.

In the textile industry no fewer than 109 out of the 144 mills in the Presidency of Bombay which furnished returns to the Government reported that bonuses were granted for regular attendance, and 76 or 52.8 per cent. stated that bonuses were given for turning out work better than specified standards. Fifty-eight mills in Bombay City granted bonuses for regular attendance. These bonuses were generally found in the carding, winding, spinning and frame departments for time workers. As the earnings of piece workers such as weavers are dependent on their output and production, the system of bonuses for good and regular attendance has not been introduced to any appreciable extent amongst piece workers, although a few mills reported that such bonuses were also granted in the weaving departments. In one case bonuses for better attendance were granted to young workers only, in order to encourage them in regularity. With regard to bonuses for better work, 51 out of the 76 reporting mills stated that no inducement was offered in the form of higher wages or bonuses for work better than specified standards. Twenty-five mills, however, reported that such bonuses were given. In one case it was only granted in certain departments. In another case operatives of the card and frame departments received 15 to 20 per cent. more over their earnings per day if output was greater than normal specified standards. Similar bonuses on a greater number of hanks than the averages laid down were also given in the frame department, but two mills which reported with regard to this did not give any information in respect of the rates of increase.

During the proceedings of the Bombay Strike Enquiry Committee, the Bombay Mill Owners' Association stated that the system of granting bonuses was to be entirely done away with as soon as

their proposals with regard to standardization of wages in cotton mills in Bombay City take effect—the standard rates fixed having been based on consolidation of average earnings, which include rates *plus* bonuses.

In Ahmedabad bonuses both for regular attendance and for work done above specified standards were more frequently found than in the case of the Bombay mills, no fewer than 40 out of the 49 reporting mills stating that such bonuses were granted. Bonuses for good attendance were generally confined to time workers only and were extended to weavers and other piece workers only in a few cases. In some cases, the bonus granted for better output was conditional on regularity in attendance also.

With regard to bonus for better work, three up-country mills reported that special efficiency bonuses were granted to jobbers who showed production figures higher than specified standards for the workers under their control. Eight mills reported simply that bonuses for better work were given but no information was furnished as to the form which such bonuses took. Eleven mills, excluding those in Sholapur, stated that bonuses were allowed for better attendance. In most cases this bonus, as in the case of the Bombay and Ahmedabad mills, was given in the form of a cash payment. The mills in Sholapur, however, observe an entirely different system. The mill owners in Sholapur pay all workers who have not lost more than four days' work in a month a grain allowance.

System of Wage Payment.

Wages in the Bombay and the Sholapur mills are paid monthly, irrespective of the fact whether they are based on time rates or piece rates, or fixed on a daily or a monthly basis, or in any other manner. In the Ahmedabad mills wages are paid fortnightly—the term “fortnightly” referring to a period of generally fourteen days for piece workers and to a period of generally sixteen days for time workers. These periods are called “Haptas.” The Hapta does not begin or end on a particular day, as far as all the mills in Ahmedabad are concerned. It may begin and end on any day in the case of individual mills.

In the mills in Bombay City and, it is believed, in mills at such other centres as are affiliated to the Bombay Mill Owners' Association, wages are calculated on a monthly basis and payments are effected from 12 to 15 days after they become due.

During my stay in Bombay attention was drawn in the newspapers to a case where the wages in a Bombay mill for January had not been paid by February 20, and according to the newspapers the operatives threatened to go on strike, but a promise of payment within a week prevented the strike, on the advice of the Labour Union.

In the *Ahmedabad Mills* and in mills at such other centres as are affiliated to the Ahmedabad Mill Owners' Association, wages in the case of piece workers are calculated on a fortnightly basis and are paid about eight days after they are due, and in the case of time workers are calculated on a monthly basis, and are paid about 15 days after they are due.

With regard to the facilities for purposes of mitigating the extent of indebtedness due to the withholding of payment of wages, the Bombay Mill Owners' Association conducted an enquiry on behalf of the Labour Office in the year 1924, the results of which showed that out of 62 mills which supplied information 40 per cent. were conducting cheap grain shops where food grains were sold at wholesale market prices on the basis of cash as well as credit. In the latter case payment was recovered on pay-day.

The object of these cheap grain shops was not so much the offering of any particular facilities for the purpose of mitigating the hardships caused by the withholding of wages as to afford some measure of relief against the high prices charged by unscrupulous retail grain dealers at a time when the market was disorganized. With the return to normal market conditions 24 out of these 40 mills had closed these special shops. Thirteen out of 62 reporting mills had no grain shops at any time. Since 1924 these cheap grain shops have been discontinued in most cases, the cause for discontinuance being that the workmen would not take advantage of these shops because their *Banias* (retail grain dealers, who are also money-lenders) did not give those who did not buy grain from them credit for other purchases they might choose to make. This worked as a hardship on the men, and they preferred to buy the grain also from the *Banias*.

Amounts Sent to Villages.

In the case of families the average monthly amount remitted comes to Rs.1-11-1, which constitutes 3.2 per cent. of the family income, which is Rs.52-4-6 per month. In the case of persons living singly in the city, the average monthly amount remitted comes to Rs.11-7-1, which constitutes 26.2 per cent. of the monthly income, which is Rs.43-10-3.

It has already been pointed out that the labour force in Ahmedabad is not immigrant to the same extent as in Bombay, and therefore remittances to dependants are not such an important item in the worker's budget. The family there consists of four persons, of whom 3.87 live in Ahmedabad and 0.13 in the mofussil (up-country).

From the family budget enquiry made by the Labour Office it appears that nearly 7 per cent. of the working-class families in Ahmedabad remit money to their dependants living away from them. The average remittance per family comes to 7 annas 1 pie per month, and the average for only those remitting money comes to Rs.6-6-9. For all the families the average monthly expenditure on this account comes to 1.00 per cent. of the monthly income, which is Rs.44-7-2.

Sholapur draws its labour force from the immediate neighbourhood, and the labour there is not of the same cosmopolitan character as in Bombay. The average cotton-mill worker's family contains 4.68 persons, only 0.11 of whom live away from Sholapur. Of the total number of families whose budgets were collected during the Family Budget investigation only 6 per cent. reported that they had to remit money every month to their dependants living away from them. The average of the amount remitted by

such families comes to Rs.4-12-7. The average for *all* the families from whom budgets were collected comes to Rs.0-4-6 per month. This constitutes 0.70 per cent. of the monthly family income, which is Rs.59-14-10.

In the cotton mills in Sholapur all operatives who do not lose more than four days in the month get a grain allowance, which takes the form of a right ordinarily to purchase 20 seers of grain (18 seers of jowari and 2 seers of dal) for a sum of Rs.2, irrespective of the retail selling prices of those food-grains in the city. In the case of one mill, jobbers are allowed to purchase 31 seers of grain for a sum of Rs.3-8-0. Half-timers have the right to purchase 10 seers of grain for one rupee. In the case of another mill, only two-loom weavers have the right to purchase 20 seers, and one-loom weavers and half-timers can only purchase 10 seers. The value of the grain given differs from month to month according to the variation in prices.





Cotton Mill Visits

It is extremely difficult to generalize on what one has seen or heard in the course of many visits paid to different centres of mills, as conditions vary in each of the localities, in mills spinning fine, medium or course counts, and, of course, each firm has its own idiosyncrasies, yet a few general remarks seem necessary before going into details.

The nucleus of this chapter has been provided by means of an enquiry form which has been completed by many of the mills visited; the replies received are published at the end of the Appendix, and will enable the reader to make his own comparisons, either with mills in India or with mills in other countries.

When one visits mills with a view to making a report on them one comes occasionally across some slight inconsistencies in the information given, which are due to the natural feeling of some mill managers to exaggerate somewhat their own achievements by quoting rather higher figures of speeds and production than they really are. But, as far as possible, the actual records of the mills have been consulted, and it is certain that the practical mill men who read this book will recognize, by the details given, the state of efficiency which has been reached in the technical development of many Indian mills.

Most of the mills which the writer has visited were what may be considered better-class mills, though it will be seen that a few of them belong to the less efficient ones. In the majority there is a dyehouse and a bleaching plant attached to the spinning and weaving mill.

MILLS IN BOMBAY PRESIDENCY

Bombay Island was the principal pioneer of the factory system (leaving out of consideration the small efforts of Surat and Calcutta), and therefore we have in Bombay many mills of antiquated construction, though, of course, there are some, as those of the Wadia family, which are up-to-date in the extreme, fitted up entirely with Platts' machinery, and they resemble the most modern Lancashire mills in outer and inner appearance. As land on

Bombay Island is scarce and expensive, most mills have five and six storeys. It is only when one gets 20 miles out of the city that one meets an occasional mill of shed construction.

In Ahmedabad, where land is less expensive, shed construction is the general type. In Cawnpore the mills resemble, more than anywhere else, the Lancashire type, due probably to the fact that more Lancashire men per mill are employed there than in other parts of India. Madras gives preference to shed buildings; Sholapur has again the Lancashire type, and is very modern, as most mills have only been built in comparatively recent years.

There are still many Lancashire men "inside" or department managers in India, but the tendency is for them to be replaced by Indians. Some few of the Lancashire department managers have proved to possess, besides technical knowledge, organizing ability, and they have worked themselves up to leading positions.

The cleanliness of the mills was generally quite good, though in Bombay and up-country some machinery came to my notice which was caked with dirt, and the floors were often very greasy. In one of the up-country mills there was so much cotton lying about the floor of the mill and in the mill yard that a fair dividend could have been paid out of this wastage.

It may be stated here that as a rule one ring tenter looks after only one side of a machine, and that the average number of looms per operative is certainly below two for the whole of the country. Detailed information as to the number of people per machine will be found in the replies to the questionnaire at the end of the Appendix. Labour in India is undoubtedly on a very low par, probably it comes next to Chinese labour as regards inefficiency, wastefulness and lack of discipline.

Night work is carried on in India in about ten mills only. There is no night work in the whole of Bombay, but up-country, in some of the mills, with a view to reducing costs of production, owing to their machinery having been bought during the boom, two shifts of nine or ten hours are being run.

The unions in Bombay are practically broken up; it is estimated that about 5,000 people are at present paying their contributions towards one of the two unions. Labour at the time of my visit was more docile than of late years; several mills have stopped altogether, and unemployment existed. At every mill gate there were people asking for work.

Cleaning is generally done during the day, but a thorough cleaning is given on the 15th and 31st of each month, except in weaving departments, where looms are mostly cleaned when new beams are put in. The thorough cleaning takes $1\frac{1}{2}$ hours, twice monthly, and consequently the working hours should be considered, at least in Bombay, as being 50 hours per week instead of 60.

Very few cotton mills in India hedge, but there are certainly some who do, though they admitted that they do not hedge to the full extent of their commitments.

The mills in the cotton-growing districts are held by Bombay to have an advantage in the purchase of cotton, and, of course, this exists in so far as they save a considerable portion of the freight, but, on the other hand, mills up-country state that they have to buy a whole year's consumption of cotton at the beginning of the season, whether the price is high or low, for if they did not do so the cotton would be sent in the ordinary way to the exporting houses at ports, principally Bombay and Karachi. Unless the up-country mills buy their cotton at the beginning of the season they have to pay the freight to bring it back from Bombay, and they state that the expenditure would be more than the loss of interest they have to bear. This year, when there was a fall of almost 3d. per pound from the beginning of the season to January, many up-country mills must have suffered a severe loss. The up-country mills allege that they have to pay to the growers almost as much as Bombay prices, and that they do not receive the full benefit of the saving in freight. In one mill I saw stocks of cotton, and the manager informed me that since its purchase the price had dropped three annas per pound.

Ahmedabad, a city of 350,000 inhabitants, situated slightly to the north of the Broach cotton district, has 22 per cent. of the cotton-spinning spindles of the whole of India, which is almost equal to half the size of the Bombay cotton mill industry. The mills in Ahmedabad have prospered whilst those of Bombay have been unable to pay dividends. The fact that during the last four years about 12 new mills have been added and that several extensions are contemplated is proof of the satisfactory return on capital invested in the cotton industry, although the Ahmedabad Cotton Mill Owners' Association show, in a combined balance sheet compiled by auditors, that the profit on an average has been about $4\frac{1}{2}$ per cent. per annum after full consideration of depreciation, which is not always provided for in the mill balance sheets.

Indian mills, and those of Ahmedabad in particular, have generally begun with a small capital and have extended the plant with the profit earned; therefore, the dividends shown by the mill owners on block-account, which is building and plant values combined in the Financial Chapter, p. 64, are not a true index of the prosperity of the industry.

There are many reasons why Ahmedabad is in a better condition to compete than Bombay.

- (1) The more recent and efficient equipment of the new mills, showing an increased production on 20's warp of more than $1\frac{1}{4}$ oz. per spindle per 10 hours.
- (2) The managing agents have no other business, as a rule, but to look after the mill, whilst in Bombay the mill is only one of many departments of a firm. In Ahmedabad the agents spend the whole day in the mill or in the mill office, whilst in Bombay, as a rule, the managing official visits the mills only for a short time, not every day, and spends the rest of the day in the city office, 10 to 20 miles away.

- (3) The existence of a labour arbitration board has prevented in Ahmedabad strikes of a lengthy period, whilst in Bombay two strikes of six months during the last two years have crippled the industry to the advantage of Ahmedabad and other up-country mills.
- (4) Rates and taxes are considerably higher in Bombay than in Ahmedabad. Warehouse charges are also less.
- (5) It is stated that the interest charges are less in Ahmedabad. The mill agents have more money invested in the mills which they manage than is the average case in Bombay.

It is often claimed by Bombay that Ahmedabad is in a more advantageous geographical position than Bombay, being nearer to the cotton-producing market, viz., Broach-Surat, and also to the distributing centres for the manufactured goods, but this is not quite the case, as nowhere in India is more Uganda cotton used per spindle than in Ahmedabad, and this has to come through the port of Bombay, and as the Ahmedabad mills are largely engaged in producing finer counts, woven into dhooties, the principal market of which is Calcutta, the so-called geographical advantage can only be very small, if indeed there is any, in favour of Ahmedabad. The very dry climate of Ahmedabad has made the installation of efficient modern humidification plants necessary. Ahmedabad has not the cheap electric power supply of Bombay, and the freight on crude oil from Bombay to Ahmedabad is Rs.18 for one ton of the 310 miles' distance. Coal from Calcutta costs Rs.14 per ton, a distance of 1,600 miles. The Bombay mills use largely crude oil for raising steam.

The Bombay mills have a decided advantage in the lower cost of freight on all mill stores.

The *Arbitration* Board, which came into being in 1920, consists of Mr. M. K. Gandhi, nominated by the operatives, and a past president of the Mill Owners' Association, nominated by the masters. The organization is an extension of the Lancashire Brooklands Agreement; first, the mill authorities try to settle the dispute, then the union official and mill authority; if unsuccessful, the union and mill owners meet and if no solution is arrived at the above two arbitrators try to settle, and if they do not succeed they appoint an umpire whose decision is final and *must* be accepted by both parties.

It is generally admitted that Broach cotton placed into Ahmedabad is cheaper than in Bombay, and that the mills in Ahmedabad are more careful in their mixings. Ahmedabad mills use more sizing than Bombay mills.

Roughly speaking, Cawnpore represents about 10 per cent. of the Indian cotton industry.

Half of the mills are enjoying a lucrative period of business,

whilst the rest, largely through past carelessness and share profiteering, are not making a profit at present, but they are reconstructing their organization and equipment.

All the mills at Cawnpore convey to the visitor the impression of cotton mills of Europe, Lancashire architecture of four and five storeys, but with very spacious mill yards, kept scrupulously clean and tidy, which is such a contrast to most Indian mills. A much larger percentage of Lancashire inside men (weaving and spinning masters, engineers) is employed at Cawnpore than anywhere else in India.

Cawnpore uses a great deal of Punjab-American, as the distance from the fields is not excessive. Another cotton used here is Ujjain, grown near Indore; the Cawnpore mills are also for this cotton nearer than any other centre to the actual growing. This Ujjain is a strong cotton, only slightly shorter than Punjab-American. For lower counts they use fully good Bengal and Omrah, which grows quite close to Cawnpore.

These remarks on cotton used apply to all mills in Cawnpore except one or two, which go in for fine spinning.

In Cawnpore several mills have a mail-order business, and run some shops, besides placing part of their production through selling brokers, who guarantee the account and get Rs.1.8 to Rs.1.12 commission per cent.

A firm of mill-managing agents told me that when they took over the business the old suppliers of cotton came offering them secret commission, and added that their predecessors always had 2 per cent.

Rail freight on cotton from Surat to Cawnpore costs about $\frac{1}{2}$ anna per lb.

The outstanding feature in the Madras centre is the use of 2,300 automatic looms, which turn out perfect cloth. As there are many hand looms in this Presidency, several mills are engaged on spinning only. Wages in Madras city are lower than in Bombay, but about the same as in other parts of India; in the southern portion of Madras Presidency wages are the lowest throughout India, as will have been seen in the Wages Chapter.

In the Calcutta district are only 300,000 spindles and 4,000 looms.

Wages are paid weekly in Calcutta (in Bombay the mill owners maintain that it would be impossible to pay wages weekly). Almost all are on piece work. The average earning of the women reelers is Rs.14 to Rs.15 per month, but some may get as much as Rs.20. The women generally attend to their children before coming to work, and are not called upon to keep strictly to the working hours. Some children were in the reeling room. Work in the cotton mills is lighter than in the jute mills, which is the great industry of Calcutta.

The cotton mills round Calcutta have no difficulty in getting labour, a good part of which comes from Madras Presidency. Even during the strikes of the jute mills the cotton mills continue to work.

After these general remarks, to which there are always exceptions in a country of the magnitude of India, the notes made during the visits to mills paid by the writer may be considered.

MILL No. 1

53,820 ring spindles, 1,760 looms. All Platts' machinery. One of the best mills in the country.

For yarns to be dyed they use Cocanada cotton, but it is maintained that its strength has gone down of late years. Twenty years ago, yarn of 20's, $17\frac{1}{2}$ turns, stood a test of 70 lbs.; to-day it is only 45 lbs. (Evidently this mill is not getting the right kind of Cocanada cotton, as the writer was shown in another mill the breaking-strain tests of yarn made entirely of Cocanada cotton; three tests averaged for 16's, with 16 turns per inch, 72.3 lbs.) It may be mentioned that Cocanada cotton is difficult to bleach or dye. It seems to have a great deal of wax, so much so that the rollers on the drawing and spinning frames require special cleaning.

This mill also uses Punjab-American cotton, 20's twist, $17\frac{1}{2}$ turns, test 30 to 45 lbs.; although it is mixed, they prefer it for warp on account of cleanliness.

Platts' latest bale breaker is said to give 40 per cent. better cleaning than the old one.

40's warp, double hank roving produces 3.15 ozs. per 10 hours, spun out of Kampala (Uganda) cotton alone. No high draft is used in this mill.

20's bundled yarn is sold to Beyrout and Egypt.

Ring frames have 352 spindles, two tenters required for each frame.

The following monthly costs were given: — —

	Spinning and weaving.		
Overhead	Rs.24,000
Labour	Rs.95,000
Establishment	Rs.8,000

MILL No. 2

47,000 spindles spinning 24's to 70's. Casablancas high draft almost throughout. It is claimed that, on account of it, a higher lea strength is obtained with yarns spun from Uganda and Egyptian cotton. In this mill (Tweedales & Smalley's 1920-22 ring frames), 420 spindles are attended to by one tenter, which is an exceptionally high number.

Production per 10 hours: 40's warp, $22\frac{1}{2}$ turns, 3.15 ozs. per spindle.

For 60's weft the production is 1.6 ozs. in 10 hours, 24 lbs. test. The same mixing is used for 40's twist.

40's special reeling yarn : Cotton mixing, 60 per cent. Kampala and 40 per cent. Jinga ; both Uganda cottons. Production : 3.4 ozs. per spindle in 10 hours, 36 lbs. test.

40's to 60's reeling, the mixing being two bales Surat, one inferior African B.R., and four bales Jinga (Uganda).

Production in 10 hours :—

40's ...	...	2.71 ozs.	...	36 lbs. test.
42's ...	...	2.47 ozs.	...	33 lbs. ,,
44's ...	...	2.26 ozs.	...	30 lbs. ,,

70's weft : Production, 1.06 ozs. per 10 hours, 21 lbs. test, the mixing being 50 per cent. Kampala and 50 per cent. Egyptian Uppers.

Out of the same mixing 50's warp for Casablanças high draft gives just over 2 ozs. per spindle production, 37 lbs. test.

The waste works out 5 per cent. blowing room to spindle point for 40's warp and 60's weft, composed of 60 per cent. Kampala and 40 per cent. Jinga.

An up-to-date dyehouse is in the mill. The German and American Dye Trusts are fighting each other, and consequently very low prices are being accepted ; for instance, sulphur blacks in concentrated form, which used to cost Rs.2-8, now cost 7 annas.

This mill had at one time a thousand looms on artificial silk, but now they have only 300 looms on it. The extra wage for artificial silk weaving is about 14 per cent. Wire healds are used almost exclusively where artificial silk is the warp.

MILL No. 3

This mill was acquired for the purpose of fighting Japanese competition.

In the spinning department only two counts are produced, 17's weft and 13's warp.

Machinery : Dobson & Barlow opener, Howard & Bullough cards, one with stripping eliminator, which is reported to be working satisfactorily.

All the ring frames, and *even the mules*, have Casablanças high draft.

The manager expressed himself as being highly satisfied with the Casablanças system, and it may be remarked that in Bombay generally Casablanças system is well spoken of.

For 17's weft they give 17 of a draft, 5 in. lift, $1\frac{1}{4}$ in. ring, $2\frac{1}{4}$ gauge, 420 spindles per frame, 8,548 revolutions, 17 turns per inch. For 13's warp, $1\frac{5}{8}$ in. ring, 6 in. lift, $2\frac{5}{8}$ gauge, 13 of a draft. Tweedales & Smalley's frames, 8,141 revolutions ; also Howard & Bullough, 1929, 8,500 revolutions, 15.3 turns per inch. In this mill every ring tenter looks after two sides, which is an exception to the rule.

The winding department seemed also very efficient. The best

winders (the only department in this mill where women are employed) will do 180 lbs. in nine hours; the average is 140 lbs. Each operative has 30 spindles, and the daily wage averages about one rupee. The women are not kept to the strict working hours of 10 per day, in order to enable them to return home before the men.

Weaving.

Shuttle kissing is in force everywhere. In this mill they had little fans over the centre of the top bar of each loom, but the operatives are not using them. (I was told that these were an appliance insisted upon by the factory inspector, but in no other mill have I seen it.)

The production, speeds, etc., are as follows:—

No. of looms.	Reed space.	Bales of Cloth produced.	Speed.	Efficiency, Per cent.
56	... 32 ins.	... 75	... 210	... 75
393	... 40 ins.	... 468	... 192	... 78
79	... 42 ins.	... 86	... 192	... ?
178	... 46 ins.	... 197	... 182	... ?
92	... 50 ins.	... 100	... 176	... ?
<hr/> 798		<hr/> 926 bales		
		per month.		

As a trial, this mill has installed five Japanese Toyoda looms, 42-in. reed space, working 180 picks per minute, with 88 per cent. efficiency. One weaver looks after these five looms.

This mill has been successful in introducing some economies. On 30 plain looms they have four looms to a weaver; on the rest of the looms there are three looms per weaver. This is the largest number of looms per operative which I have found anywhere in India.

There is a shoot for the weft bobbins from the spinning room into bins of the weaving shed.

The mill makes its own healds. There are two Barber Colman warp-tying machines, taking seven minutes per beam, whilst hand drawing takes two men 50 to 60 minutes to do the same work.

They have a circulating system of sizing. The pieces were stamped by means of engraved copper rollers. They make one quality of drills and four qualities of sheetings. Everything is sold in the grey.

The bales were packed in Japanese fashion, viz., two gunny cloth, tarpaulin, brown paper, a piece of fent cloth, boards (these fents are intended as "backsheesh").

Although at the time of my visit the mill industry of Bombay was suffering from a severe depression, I was told that the output of the mill, in consequence of rationalization introduced, was selling in Egypt and the Near Eastern markets, and that they were making some profit.

The cloth turned out is rather leafy.

The mixing used for both warp and weft is: Broach and Punjab-American with Nagpur cotton (Central Provinces) to brighten it. Owing to the system of mass production introduced, there has been no change in the twist wheel for 12 months. Broach cotton in the first picking is never quite as good as the later ones, and when they got this year's new delivery of Broach cotton they had to add a little more twist.

The discipline in this mill is more strict than in most of the others visited. There is no time allowed for smoking in the mill compound.

About 5 per cent. of the goods are seconds and $\frac{1}{3}$ per cent. are rejects.

MILL No. 4

Electric power costs 0.725 annas per kilowatt.

This mill has 27 Toyoda automatic looms mainly for the purpose of training operatives. They have selected for these a set of men from the clerking class with some school education. They had in course of erection at the time of my visit a shed in which 200 Toyoda automatic looms will be working in two shifts.

The decision to build a shed with 200 Toyoda looms was based on the following experiment with 22 looms:—

COMPARISON OF THE OUTPUT AND COST OF THE 22 TOYODA LOOMS WITH 11 ORDINARY LOOMS.

(Actual figures copied from the firm's book).

Both looms producing the same quality of grey shirting.

The Toyoda had 42 ins. reed space and the plain loom 36 ins. Warp in both cloths, 13.53's. Picks per inch, 44. 32 ins., 40 yds., 11 $\frac{3}{4}$ lbs.. Picks per minute: Automatic, 186; ordinary, 200.

Production.

Automatic Toyoda: 49 pieces = 575.12 lbs. in 10 hours = 22,326.1 yds.

Ordinary loom: 11 pieces = 191.4 lbs. = 15,243.3 yds.

Average per automatic loom: 59.75 yds.

Average per ordinary loom: 57.7 yds.

Efficiency: Automatic loom, 87.5 per cent.; ordinary loom, 73.2 per cent.

Wages: Automatic loom, 6.8 pies per lb. net. Ordinary: 6.9 pies per lb., plus 80 per cent. cost of living = 10.8 pies, weaving only; but including jobber and drawing-in = 12.630 pies.

The following calculation is the basis for the new Toyoda shed:
Cloth: 36 ins. \times 30 yds., 10 lbs.

Running Expense, on basis of production, 22 lbs. per day (the

experimental looms produce only $17\frac{1}{2}$ lbs., but they are being worked by learners).

	Rupees
1 Japanese superintendent, per month	410
1 Indian fitter	75
12 weavers, at Rs.75, but probably only Rs.60 ...	900
8 coolies at Rs.25	200
1 Barber Colman warp-tying machine tender ...	75
2 coolies and beam carriers	60
1 sweeper	25
25 circular winders (a Japanese winding machine) ...	546.875
2 coolies	50

Running expenses of 200 automatic looms ... Rs.2,341.875

Overheads.

Stores	630
Power: 2.8 units \times 200 looms \times 25 days \times 0.77 annas per unit	404.250
Insurance: Fire, at 2 per cent. on Rs.100,000 ...	50
Labour insurance: 3 annas on Rs.2,342	4.391
Rent: $11\frac{1}{2}$ per cent. on rateable value municipal assess- ment on Rs.65,00 \times 6 per cent.	118.623
Water tax, $3\frac{3}{4}$ per cent.	
Habalkhor (cleaning w.c.), tax 3 per cent. } Rs.3.900 \times 18.25% + 6 }	

Rs.3,549.139



"Indian Textile Journal."

Japanese (Toyoda) Circular Winding Frame, in Bombay Mill.

			Rupees
Brought forward	...	...	3,549.139
Depreciation, 20 years	...	Rs.777.218	
Interest at 6 per cent.	...	Rs.932.662	
		<u>Rs.1,709.880</u>	
			<u>1,709.880</u>
			<u><u>Rs.5,259.019</u></u>

Ordinary Looms.

Net weaving charges on 66,000 lbs., inclusive of 80 per cent. cost of living allowance. (This is the usual way in which Bombay calculates wages)

...	...	10.8	pies
Jobbers	...	1.404	pies
Drawing-in	...	0.426	pies

12.630 pies = Rs.4,341.5635

General expenses at 0.76 annas on 66,000 lbs. ... 3,135.000

Rs.7,476.5635

Ordinary looms	...	Rs.7,476
Automatic looms	...	5,259

Total gain in favour of automatic looms ... Rs.2,217.5 per month.
= 0.5375 annas per lb. of cloth.

The cloth produced in this mill will be for consumption in India alone.

MILL No. 5

18,000 ring spindles, 11,000 mule and 2,500 weft Chapon spindles. 804 ordinary looms, of which 50 per cent. are dobby and 109 blanket looms.

Drafting machines for waste, up to 6's only, give a very soft round yarn. 60 per cent. of the weft is waste and 40 per cent. Bengal cotton.

The rag breakers and other waste machinery are from Josephy's Erben, Bielitz. They are well spoken of throughout India.

MILL No. 6

9,072 ring spindles, 13,896 mule spindles. This mill has nothing but spinning, and forms an exception to the general rule. The mill was bought a few years ago at Rs.11 per spindle, but a good deal of money has been spent since on new machinery. All rings are new, Howard & Bullough, 1928-29.

This mill, together with many other mills in Bombay, uses oil for generating steam, due to the advantage of having the oil delivered without any intervening land freight charge.

The cotton used is Kumptah, and in order to ensure uniformity of mixing a whole year's supply has to be kept in stock. A small quantity of B.R. African cotton is also used.

In one section 19's to 32's are spun and in the other 6.8's to 16's. For the latter 5 per cent. Mathia cotton is added.

The blow-room waste was given as being 12 to 14 per cent., the all-over waste 17 per cent.

Casablanco's high draft is being used everywhere, even on mules. The cost of conversion is about Rs.5 to Rs.6. The manager was well satisfied.

Howard & Bullough 1928 belt-drive ring frames, 324 spindles per frame, $1\frac{5}{8}$ ins. diameter, 5 ins. lift. 9,000 revolutions per minute for 26's. 3.5 hank, 18 turns per inch, are well spoken of.

The mules are used for low counts. They are staffed as follows: 1 spinner, 2 engine piecers, 2 side piecers, 2 creel boys, for 1,240 spindles.

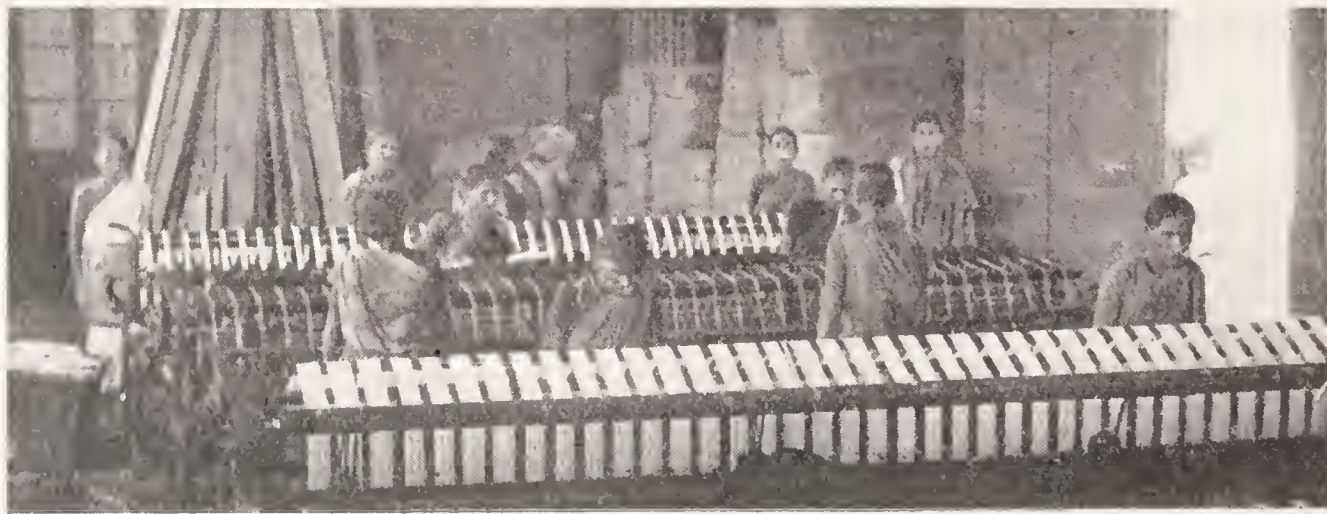
In the whole of the mill there are 670 workpeople, including engine men.

Production: Average counts 17.75's is about 8,400 lbs. per 10 hours.

Average wage per month, roughly Rs.30 per head.

In this mill some girls are doffing and do side piecing. In the winding and reeling nothing but women are employed.

A high-speed winding frame of Arundel Coulthard & Co., Stockport, tape-driven, was pointed out as giving great satisfaction. One woman each looks after 10 drums 12's, 12 drums 20's, and 14 drum's 24's, from cops.



"Indian Textile Journal."

Reeling Room (two women per reel).

Almost each reel in the reeling room had two women.

Piece rates of wages are in force for mule spinning, winding, reeling and preparatory machinery in the card room.

In a recent month of 27 working days 276,688 lbs. of raw cotton were consumed in this mill. The labour cost was Rs.20,415, the average count was 17's. The total waste produced was 17 per cent.

TECHNICAL SECTION

The operatives in this mill refuse to attend to more machinery. I watched two ring frames for three minutes; there was not a single end down, yet the workpeople would not look after more than one side. They said that they are satisfied with the present wage, and that there are so many men who want work and cannot get it that it would be unfair if they were to attend to more machines.

MILLS Nos. 7 and 8

Spindles: 49,316 ring, 13,276 mule, 5,730 doubling. Looms, 1,430.

This is a very good mill, well managed, clean; the mixings throughout are too good rather than too low.

There is an up-to-date bleaching, dyeing and finishing plant.

Average counts in No. 1 mill: 24's to 34's.

Average counts in No. 2 mill: 8's to 60's.

Roving, 160 spindles; inter., 124 spindles; slubber, 84 spindles per operative. Counts up to 5 hanks. 320 spindles for 5, 6, 7 and 8 hanks, one operative with assistant tenter.

Ring frames: 252 and 296 spindles for coarse; 376 and 400 spindles for fine. Two men to three sides.

Howard & Bullough's tape-driven doubler; one operative to 324 spindles.

Most of the spinning machinery is Platts'. "Leesona" hosiery cheese winding. Yarn is not knotted, but merely twisted together, as knots are said to break needles. No knotters used anywhere in the mill.

Reeling. Two women to each reel. Very good workers on piece rate. Average wage, 4 pies per lb. net, but for 42's 7 pies per lb.

Mixing. Kampala for 20's gives a production of $8\frac{1}{2}$ ozs. per spindle, lea test 95 lbs., 16 turns per inch. For 40's lea test, 45 lbs., 22 turns. Blowing-room loss, 5 per cent. The ring yarn produced from this cotton is exceptionally soft. 60's gives 1.0 to 2 ozs. production in 10 hours, 25 turns weft. Roving, 7 hanks, 2 ends up. 42's warp: 2 ends up, 6 hanks roving, 14 of a draft, $21\frac{1}{2}$ turns, 45 lbs. Production, $3\frac{1}{4}$ ozs. 10 hours.

They complain about gin motes in Kampala cotton.

30's: 19 turns. 60/62 lbs. lea test. Spindle revolution, 10,200 calculated, 9,760 to 9,800 actual.

The only high drafting used is Dobson & Barlow's, on a few 1929 tape-driven frames, which work very satisfactorily.

They make 2/28 White Sowings for tacking out of American. It seems that Kampala is difficult to handle well in the bleaching.

Doffing takes, on an average, two minutes.

In the fine mill they cut out an intermediate scutcher. For Indian cotton three scutchers are used.

Yarns are dyed in hank; later on they will dye cheeses.

A great variety of cloths are woven, as many kinds as in most Lancashire fancy mills, and excellent designs too. They had 500 looms on artificial silk, mixed with cotton, but just now they have only 250 to 300.

For the low-count mill they use up to 24's Kumptah, Nandeh, Westerns, Surat, Broach.

There is a small waste-spinning plant.

They size the artificial yarns themselves, and find that sizing, winding and warping can be done at a cost of 3 annas per lb., whilst the outside charge is 8 annas.

The mill has 10 blocks of chawls (operatives' dwellings), three-storey houses with verandah. These comprise altogether 800 rooms, of which 254 are vacant. Construction: Ferro-concrete. A number of rooms are let to outsiders, because the mill's operatives will not live in them. The mill operatives pay Rs.6-8-0 per month per room 10 ft. \times 10 ft.; Rs.12 for a double room. The rent is much below the economic level. As the rent is deducted from the monthly wage, the operatives do not like living in these chawls. Rent is often not paid by Indian workpeople; they get in arrears, and then "flit by moonlight."

MILL No. 9

63,000 ring spindles, 1,800 looms. Dyeing, bleaching on an extensive scale. The whole building is "shed" construction, and consequently a contrast to the other mills, as regards light.

The blowing machinery is by Lord Bros.; the cards by Ashworth; preparation by Platts; spinning frames mostly by Brooks and Doxey, but some Howard & Bullough and Platts. Looms by Butterworth.

The blow-room machinery has each its individual motor, whilst group driving is used in the rest of the mill, as is the general case in Bombay—8 lines of blow-room machinery, 192 cards, 15 slashers in one line—all warps are drawn by hand. The electric motors are in the centre of the weaving shed, about 10 ft. from the floor. The shafting does 484 revolutions, with only 5-in. pulleys.

Loom efficiency overall, 1,800 looms, 76 per cent. Average number of picks, 193.

The Khadar cloth, made in imitation of Ghandi's home-spun and home-woven cloth, consists of 6's warp and 8's weft.

They spin 36's warp and 44's weft from Uganda cotton. The spindle speed for 39's weft was 10,000, for 22's warp 9,100.

Amongst the finishing machinery I noticed a stentering frame 90 ft. in length. They make 200 varieties of cloth in different widths and 50 to 100 varieties of bleached and dyed goods. Women were working the calendering machinery, as they found them better suited than men, and also in the bleaching women were guiding the cloth.

The firm has 38 shops all over India; they have quite a different system of selling than the rest of the mills.

This mill was very clean, bright and well laid out.

MILL No. 10

This mill has 79,600 spindles, all ring, a mixture of makes, some from Platts' 1889, rejuvenated in 1914; about 18,000 spindles are on fine counts, i.e., over 36's. All such yarn is from two rovings. A great deal of these counts is used for handloom weaving in the country, for which purpose it has to be slightly stronger. Indian cotton—Bharsi—was used as high as 36's weft without any admixture.

MILL No. 11

95,700 ring spindles and 1,064 looms. Various kinds of machines, Howard & Bullough, Tweedales and Smalley's. No high draft in use. Spinning 6's, 20's, 44's. Forced on fine counts during boom when Lancashire asked exorbitant prices. A ring frame of Howard & Bullough of 1889 was still working. There is a dyeing, bleaching and finishing plant.

This mill was not kept up to the standard of the majority of other mills; evidently money was lacking. All the profits made during the boom had been distributed, as was usually the case in Bombay.

5,000 hands are employed altogether. The average wage was Rs.30; the weavers average Rs.45 per month.

The cotton is bought from hand to mouth, contrary to the usual method of keeping six months' supply in stock. For low counts Khandesh and Bengals are used (for 10's, 75 per cent. of former and 20 per cent. of latter). For 20's warp Surat is preferred. Indian cottons have a nice lustre. 44's is made from Jingi (Uganda) cotton, for doubling.

There were many operatives about in the yard, which was explained that the substitutes who occasionally replace regular operatives also come into the compound, as it was pay-day. There was one tenter to each ring-frame side, say 170 spindles. Quite a number of women were working as ring tenters. The doffers were working as ring tenters. The doffers were also women. Doffing takes two to three minutes.

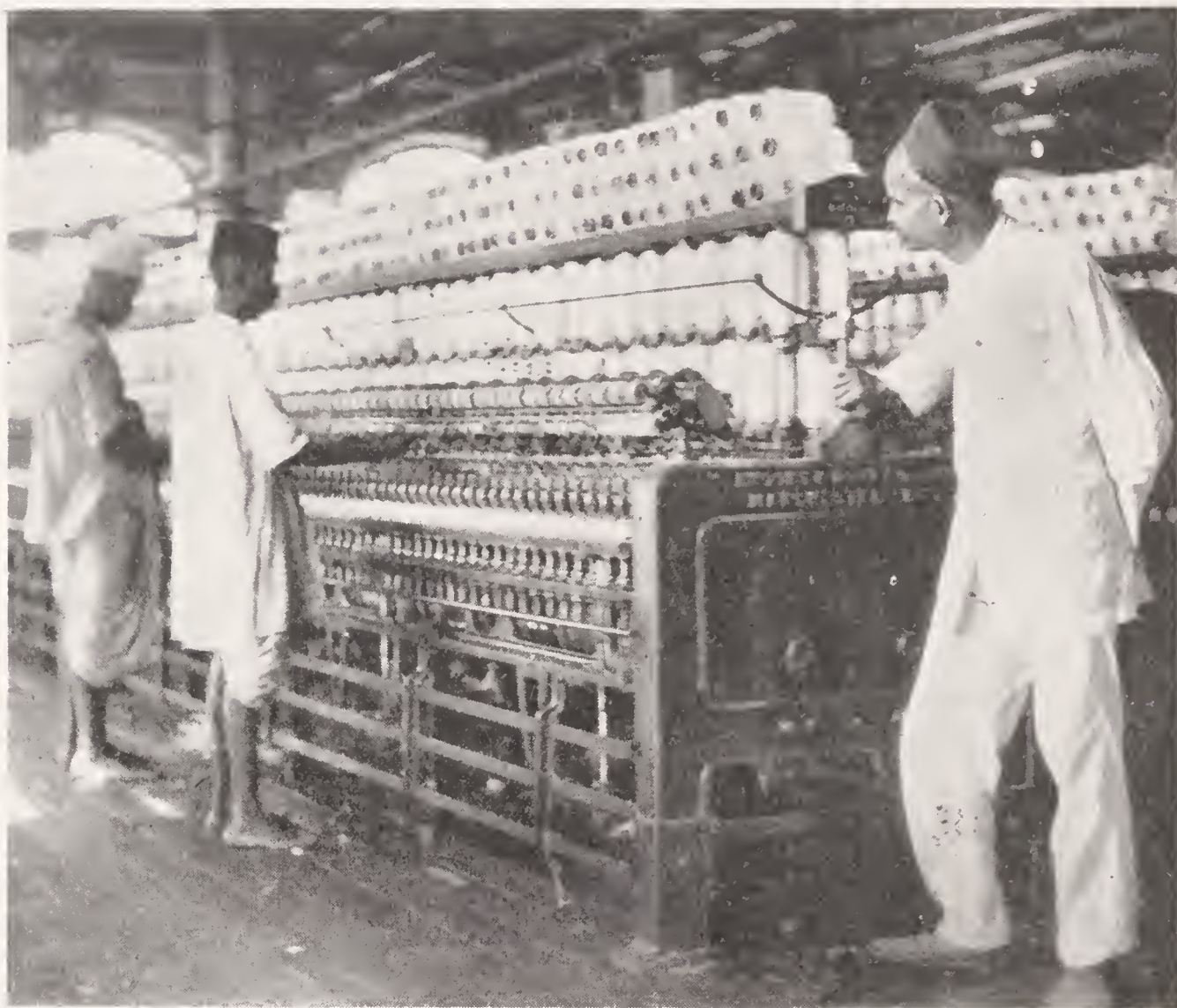
The looms were weaving mostly plain goods, just a few stripes. There is a waste-condenser mule, with Josephy's rag breaker machines. Blankets are being woven.

6's production, 20 to 30 oz. per spindle 10 hours. Front roller speed, 250. 6,600 spindle revolutions. $1\frac{5}{8}$ ins. diameter (for glazing).

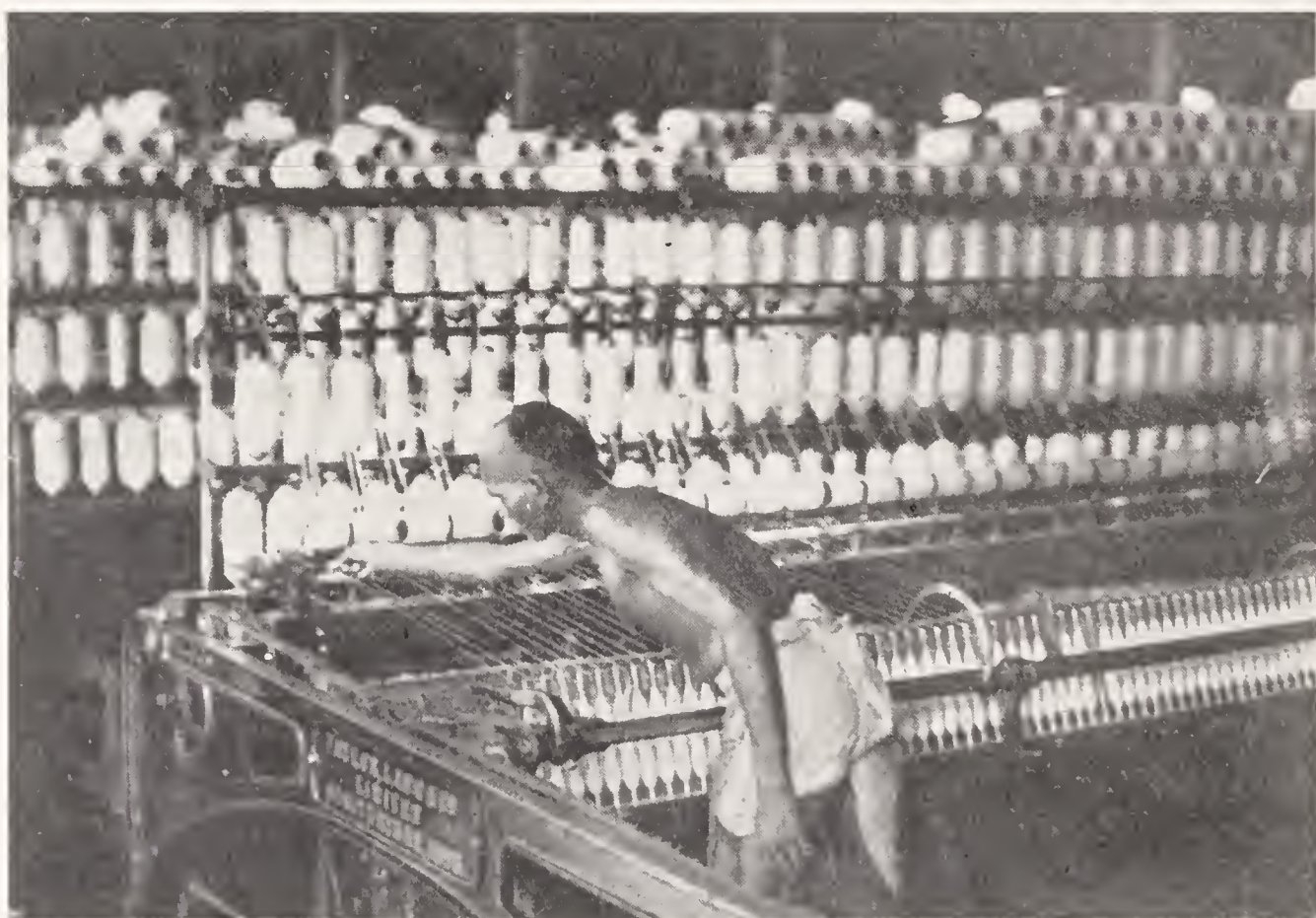
All the drawing-in is done by hand, and this labour seems very satisfactory; they were drawing in three hooks at a time for a drill warp. Generally they have one wire heald to six ordinary healds. A pair of men drawing in receive Rs.75 (together) for a month.

A cloth of 20's warp and 30's weft, 3 ozs. per square yard, made from 25 ins. to 60 ins., production $12\frac{1}{2}$ lbs. on an average in 10 hours. 25 ins., weigh 10 lbs; 60 ins., 17 lbs. Efficiency, 80 per cent.

Per 100 looms, they reckon (from winding inclusive) to finishing, 75 operatives, not counting substitutes who take the regular man's places at times.



"Indian Textile Journal."
The Jobber and his Tenters.



"Indian Textile Journal."
The Piecer.

TECHNICAL SECTION

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The labour in this mill seemed unsatisfactory, except in the drawing-in and reeling departments. As in all mills in Bombay, the operatives are in charge of a "jobber," a kind of foreman who engages them and to whom they must pay some small fraction of their wage. When the jobber leaves the mill, he takes generally his set of operatives with him. In the spinning a set of 20 operatives is under a jobber, in the weaving 23.

All the production is sold by the selling agent, as already explained.

In spite of antiquated conditions, the manager said that under normal working he can make a profit, but with a fall in cotton such as has recently taken place, and with the Japanese merchants slaughtering their goods, it was out of the question, and he was afraid that he would have to stop altogether.

MILL No. 12

This is also an old mill with all kinds of machinery from different makers, but kept up to date.

There are 33,000 spindles spinning 14's to 28's, and 800 looms. A waste department with condenser spinning and blanket weaving. Crude oil is used for boilers.

In the spinning one tenter looks only after 108 spindles. All re-wound pirns—"Leesona." Asa Lees' high draft very satisfactory. "Leesona" high speed warping, 175 yards per minute. Average efficiency of looms for last week was 81.37 per cent. Production per loom almost 18 lbs. 44 by 40, 38.5 ins. average reed space. Doffing, 2 to 3 minutes per frame. Cloth showed many defects, very leafy. Operatives loitering about in yard.

They make about 500 bales of blankets—use an American raising machine; these blankets sell abroad in competition with Japanese.

Two Stafford looms are at work, and 20 more are on the way, which they are putting up in a small separate shed.

There are 2,500 chawls (operatives' dwelling rooms) let at Rs.4 to Rs.6 per month; each room with a verandah. Two to three storeys, some bungalow style. A bathroom is provided for the women and is now used a great deal (130 per day). A crèche is also provided, as well as a dispensary, on a primitive scale. Tea shops are let out.

MILL No. 13

This is an old mill but modernized, with machinery from many makers. It has—

3 waste mules	...	...	=	1,326	spindles
1 cotton mule	...	...	=	640	„
Ring spindles	...	...	=	46,712	„
Looms	...	...	=	40 ins.	and 46 ins.

Generally spin 21's warp, 30's weft; 3's and 10's waste. Average counts: 19/20's.

In the spinning, up to spindle point, including fitters, 1998 operatives are engaged.

Average production: 5.75 ozs. 19/20's per spindle. Yarn spun from waste 32 oz. per spindle. Loom average efficiency about 80 per cent. 14½ lbs. per loom for sheeting.

Josephy's rag breaker working well. A few Platts' roller cards of 1876 still working. Howard & Bullough's ring frames 1888 still in use.

Girl ring tenters are employed to the extent of 25 per cent. of the operatives. In this mill ring tenters look after two sides. 20's gave 64 lbs. lea test, made from 30 per cent. Punjab-American, 35 per cent. each Kumptah and Nanded cotton. As Kumptah is very dirty they put it twice through the opener; it loses 16 per cent. against Punjab-American 10 per cent. All ring tenters on piece work.

On the waste mule (Platt 1907) 442 spindles, they have one spinner and seven men for each pair, 5½ draws per minute.

One operative to three looms.

This is a "rationalized" mill in the eyes of Bombay mill owners.

MILL No. 14

42,313 ring spindles, 1,038 looms. Spinning 4's to 30's weft, 24's warp. Waste spinning, 7 men on pair of mules, viz.: 1 spinner, 2 engine piecers and 4 side piecers. 540 spindles each mule making 4's, all waste, five draws per minute, best waste used are droppings from cards. Yarn used for low carpet weaving.

20's 8,500 r.p.m. 1½ ins. diameter, 6 ins. lift. Now converting ring frames of 240 into 352 and 358 spindles, as operatives will work only one side, whether they have 240 or 358 spindles.

To show improvement which has taken place in labour, 10 years ago a ring tenter looked after 120 spindles, 5 years ago after 240, now 358 spindles.

There was a fine weft winding room, hardly any pillars in the place. Japanese knotters costing 14 annas were being used.

The introduction of knotters seems very difficult; in many mills the operatives refuse to employ them.

Weaving. In this mill there were three looms to a weaver, efficiency 78 to 80 per cent., 190 picks, 46 ins. reed space; very few looms stopped.

Cost of Spinning. 12.65 pies per lb. average, counts 19's, production 3.4 ozs.; production labour only.

Cost of Weaving. 22.06 pies per lb.; cloth production labour only. Longcloth, dhooties, shirtings, principally greys, are mostly made.

MILL No. 15

This is a weaving mill with two sheds of 1,000 looms each. All kinds of cloths are being made; about 700 looms were at one time on artificial silk, but at present only 150. In the one shed

there were 900 dobbies, 35 jacquards, 6 dobby-jacquards. They make sarongs, drills, stripes, five different widths of sheetings—anything which is produced in India. 26,500 lbs. cloth per day is the production 13's to 60's warp and 8's to 150's weft. Average per loom 13 lbs. in 10 hours. For artificial silk weaving about 12½ per cent. extra wage on an average. Courtaulds Monofil was being used. One operative per jacquard.

The range of cloths made in this mill was very diversified. The place was clean and well managed. The greys showed a good deal of leaf in the yarn, which is a general complaint, for too few cards are used with the Indian cotton. The Japanese use more cards with Indian cotton.

Indian coal and Welsh coal are being mixed in this mill. Indian coal leaves a lot of ash.

MILLS No. 16 and 17

I have no hesitation in stating that, as regards lay-out and cleanliness, I have seen very few mills anywhere which can compare with No. 16, built in 1908. No. 17 mill is older, and has not the labour-saving appliances as No. 16, but here is a very excellent dyeing and bleaching plant. It is claimed that No. 16 is the largest mill in the world under *one* roof; it has 110,000 ring spindles and 3,116 looms. Everything in both these mills has been supplied by Platts.

There is a cotton warehouse, built like the cotton safes in Manchester, with electric travelling cranes. In the warehouse 12 bales are allowed to be placed on the top of each other.

Every polished part of the machines was really bright; special parts such as flyer-arms, top cylinders on draw frames, were plated. No grease or oil was allowed to settle anywhere, everything was spick-and-span.

All warp is spun in one room and the weft in another room.

A Morris runway system carries the yarn and beams, even the back beams of the sizing machines. The beams are weighed without detaching them from the runway.

There are no warp-tying machines, as the natives are very clever in doing this work by hand.

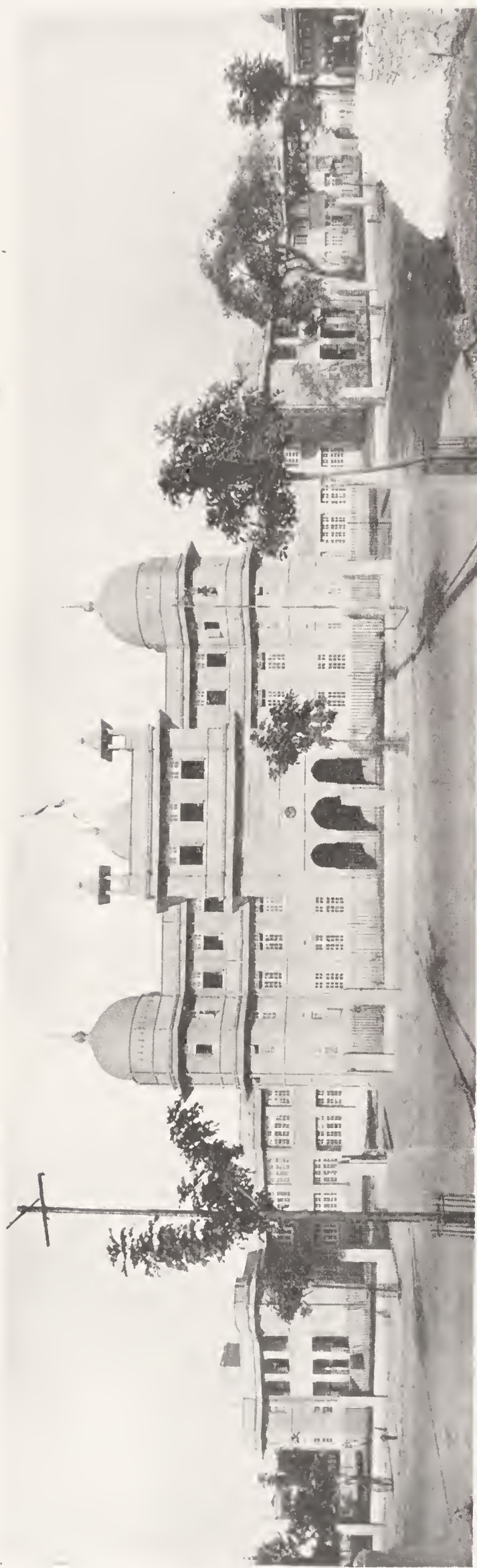
The cloth-examining room, with bale presses and packing, all in bright light, extremely clean, appealed very much to me.

The grey goods seemed to me leafy; but the leaf was not, of course, as apparent in the bleached or dyed state.

The output of No. 16 is 200,000 yards per day.

There are 15 Lancashire boilers and four Babcock boilers, all fed by crude oil. Altogether 5,200 h.p. are produced.

There is a crèche in each mill and a dispensary with a permanent hospital attendant. One doctor for three mills. There are workmen's dwellings (chawls) with grain shop. Each room has a balcony. The rent is Rs. 5 per month.



The above Maternity and Children's Hospitals are donations by Sir Ness Wadia and Mr. C. N. Wadia, in memory of their Parents.

These are recognized throughout as the premier mills of Bombay and the cloth produced is of the highest standard. This mill did not distribute all the profits during the boom period and has lately been paying its usual dividends.

MILL No. 18

This was originally a spinning mill only, but as the market—the Persian Gulf—was encroached upon by Japan, they put up looms to use their own yarns. First they made coarse dhooties, but as they are selling slowly they have now gone on finer goods.

The production, etc., in the spinning is:—

					Uganda Cotton.	
Indian Cotton.					Warp.	Weft.
					30's	40's
Ounce	...	10's 14-15	14's 8½	20's 6.6	4.25	3.25 per 10 hrs.
Turns	...	14	18	17.8	20.23	21.39
Strength lbs.		80	70	56	55	36

All the weft is re-wound on "Leesona" frames. Howard & Bullough high-speed warping—30's—220 yds. per minute. Cheese winding 550 yds. per minute. Keighley's (Burnley) slashing machinery. All the weft is placed ready on boards in the weft room. Loom efficiency 82 to 83 per cent. on 24's warp and 30's weft.

MILL No. 19

30,612 ring spindles, 602 looms. Spinning machinery by Brooks & Doxey, frames by Platts, cards by Howard & Bullough; blow room, Platts and Lords: looms, Butterworth & Dickinson.

Average counts 21.3's, production 4.5 ozs. in 9 hours 40 minutes per day. For 21's they gave the production as 5 ozs., 19.56 turns, 62 lbs. test.

Consumption per month 700 bales of cotton. Total number of operatives 11,100 for spinning and weaving, including 5 per cent. for absentees. Working hours, 7 a.m. to 6 p.m., with one hour rest.

For 21's warp they use Umri cotton from Hyderabad and Bhensa (Nausari). For 40's weft Nausari and Kampala.

One operative to 170 warp spindles and one operative to 208 weft spindles. Pulverized water in channels for atmospheric humidity. Metro-Vick turbine.

Half-timers work 5 hours per day in the mill and attend the school of the mill from 9 to 12.

There is a crèche and a Provident Fund, to which the company pays the same amount as the operatives, but the company's share can only be claimed after a workman has been for 20 years in the employment of the mill.

The spinning room has group drive. There were a number of

women working as tenters. The production on the new machines was:—

20's warp	20's weft
5.75 ozs.	5-in. lift on pirn
62.6 lbs. test	1½ ins. diameter
19.56 turns	42 to 45 lbs. test
1½-in. ring, 5-in. lift.	8,500 revs.
9,200 revs. spindles	

Doffing takes three minutes.

The reels were power-driven; the women used knotters, which were fastened over the reels.

Schlafhorst cheese winders and warping mills; manager well satisfied, turning out twice as much as ordinary machines. Four sizing machines.

The mill produces dhooties, sheetings, twills, average 48 by 48, loom production 54 to 55 yards in 9 hours 40 minutes. Average efficiency 77 per cent. Two looms per operative. Cloth room large and clean. There were 120 dobbies out of a total of 600 looms. No extra wage for dobbies. Average reel space 47 ins., average picks per minute 200.

Bleaching is done by washermen by hand in cemented tanks in the open; bleaching powder is used and the cloth is exposed to the sun and to steam. This method of bleaching is very general in Ahmedabad and Delhi; in several places the drying is done by centrifugal machinery. In most cases a contractor engages the men, provides the chemicals and attendants to the few machines.



Bleaching by Washermen.

The lowest price which I could ascertain for such a contract was six pies per *pound* of cloth, regardless of width. The average price for such contracts may be taken to be two pies per yard, less $12\frac{1}{2}$ per cent. discount, regardless of width = $\frac{1}{6}$ anna per yd., less $12\frac{1}{2}$ per cent. = $1\frac{1}{3}$ d. for 6 yards $\div 12\frac{1}{2}$ per cent. or 24 yards for 4d. net. The mill provides the finishing and stentering machine, but the contractor supplies the labour. The calendering machine is worked by the mill. At one mill the output was 1,800 ps. 24 yds. in a day and night shift.

Although hand bleaching is general in Ahmedabad, I saw there one mill where the whole of the process of bleaching was done by machinery as in Europe.

It is said that cloth bleached in the dhoby way (by washermen) generally gets yellowish after three months.

MILL No. 20

This is the most up-to-date spinning and weaving mill with the highest production per spindle which I have seen in India. It has 21,000 ring spindles, 1,200 doubling spindles and 528 looms. It was started in May, 1929, and works in two shifts of 10 hours each, paying 20 per cent. additional wages for night work. The whole plan is arranged to allow for considerable additions; the blow room is capable of feeding 40,000 spindles.

The night shift works from 6-30 p.m. to 11-30 p.m. and 12-30 to 5-30 a.m. The same set of operatives works always at night. The very excellent lighting conditions (English Electric Company) make night work as easy as day work. Nowhere, not even in U.S.A., have I seen a more efficient lighting plant; there is an absence of glare and of shadows; the whole mill gives the appearance of daylight. The main light units are 300 watts, the gasfilled lamps are carried in vitreous enamel iron fittings.

Another outstanding feature of the mill construction is a most efficient "Carrier" humidifying plant, by means of which the temperature is effectively reduced and the air humidified, without causing that unpleasant sticky feeling. With an outside temperature of 82° and 66 per cent. humidity, I took the following temperature in the weaving shed:—

Shed No. 1	...	73 dry.	71 wet.	74 dry.	68 wet.
Shed No. 2	...	73 ..	73 ..	74 ..	73 ..

This system of reducing the atmosphere in the cotton mills of hot climates seems to have solved satisfactorily one of the greatest difficulties which has existed hitherto in the tropics. It makes a wonderful difference in the atmospheric conditions, and mills fitted up with such a cooling system necessarily attract the best operatives. undoubtedly the stamina of the workpeople under such conditions must be much greater than in sheds with direct steam or water sprays. It has the further advantage that through the absence of tangible moisture machinery is not as apt to rust. The carrier plant costs £9,000 to instal in this mill; it consists of a large chamber with a system of piping and nozzles through which a finely atomized spray of water is forced. Air is drawn through the chamber by a huge fan, is saturated, cooled and cleaned. The air passes in air-ducts round the mill, and at fixed intervals there is an outlet into the mill. There is no visible moisture.

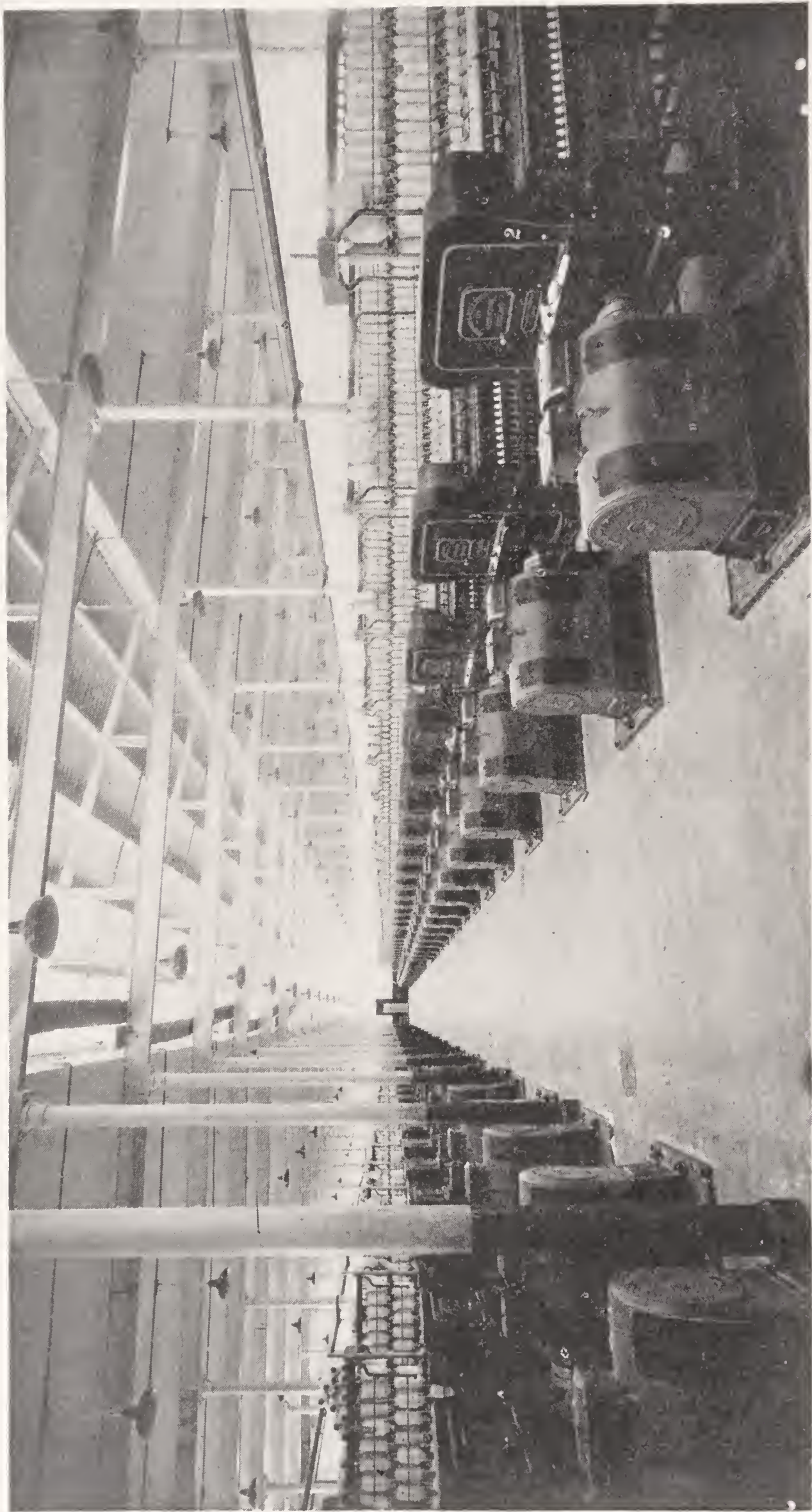


Photo by Hamilton Studio, Bombay.

The Ring Spinning Room of the Monogram Mills, Ahmedabad.

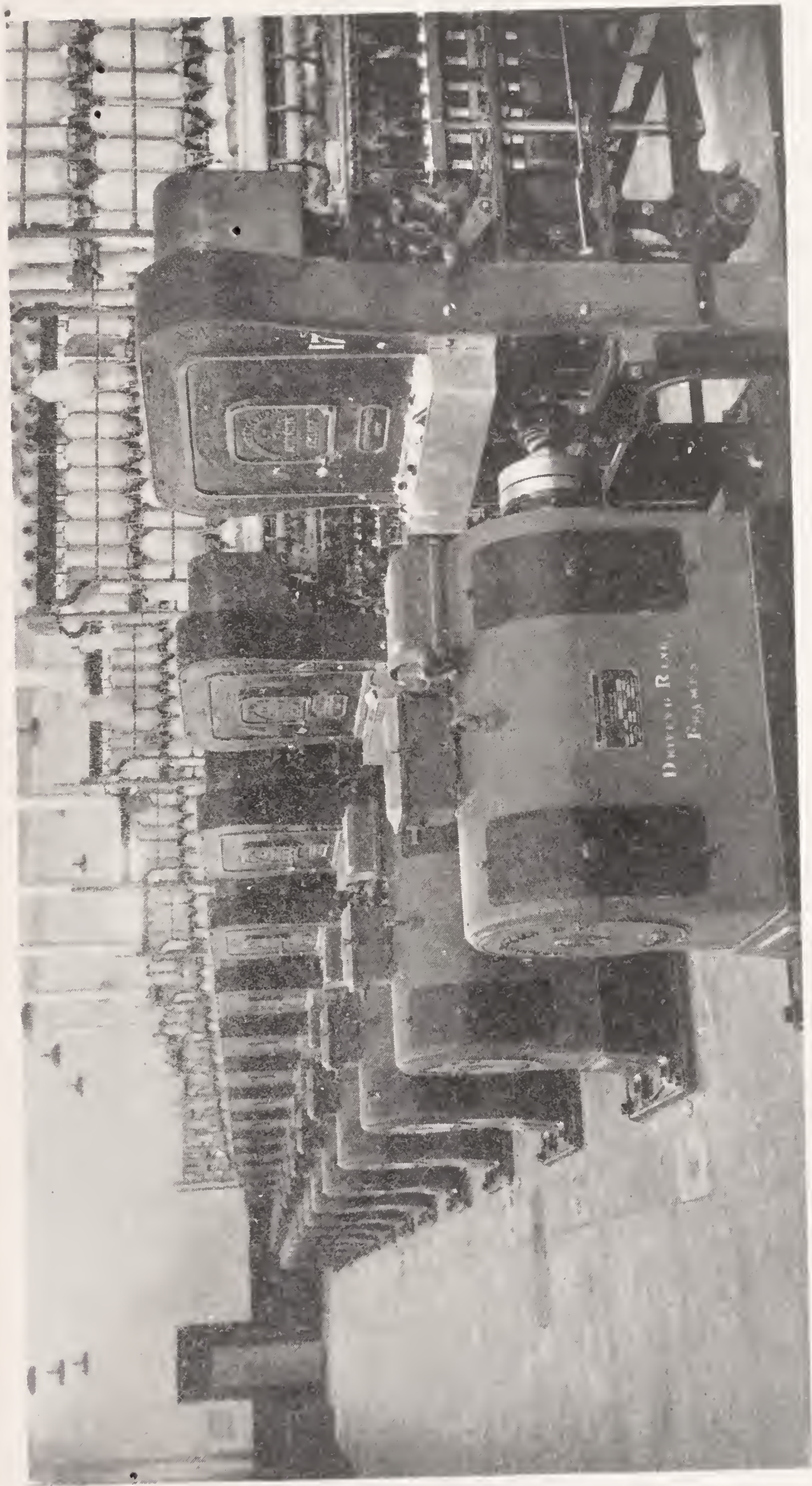


Photo by Hamilton Studio, Bombay.

Individual Motors, with variable speed, of the Ring Spinning Room, Monogram Mills, Ahmedabad.

(Motors and lighting by the English Electric Company, London.)

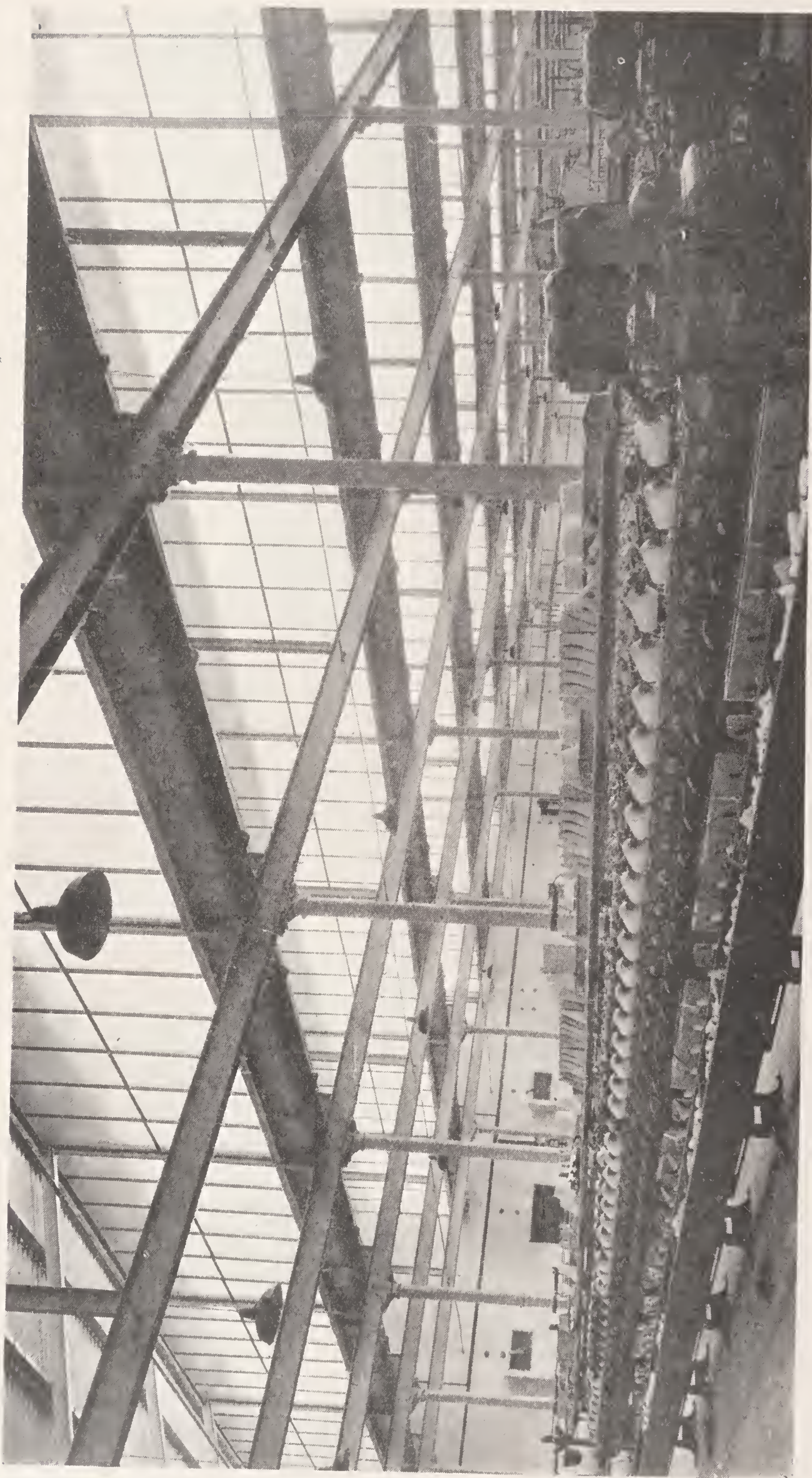


Photo by Hamilton Studio, Bombay.

“Leesona” Frames, Monogram Mills, Ahmedabad.

(Notice construction of glass wall, also the outlets on the wall of the Carrier air-ducts.)

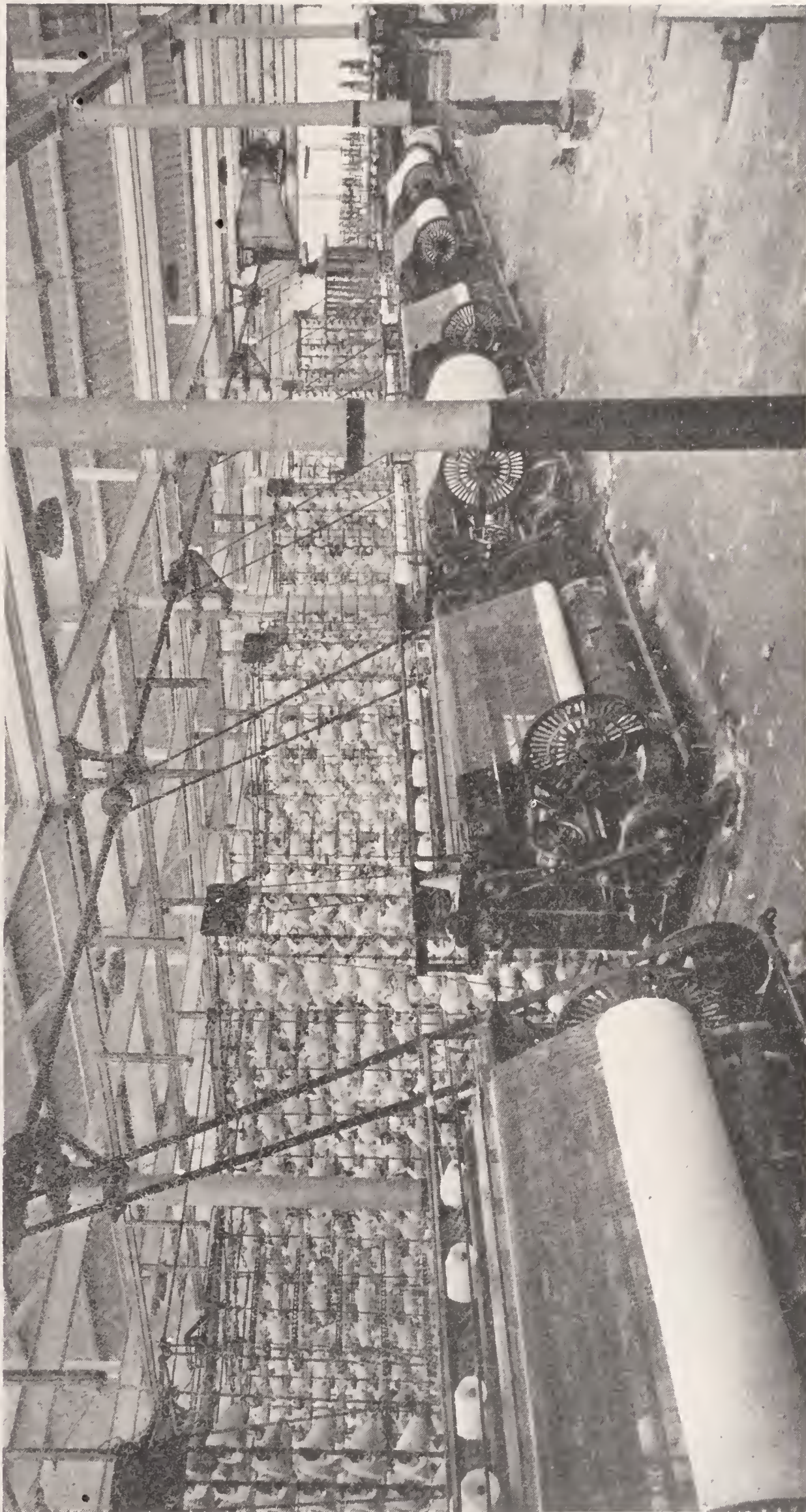


Photo by Hamilton Studio, Bombay.

Howard & Bullough's High-speed Warpers and "Leesona" High-speed Warping Creels, Monogram Mills, Ahmedabad.

Some people maintain that in addition to the carrier plant the usual atomized sprayers are necessary, but that was not the experience in this mill. (I may mention that in several mills the workshops of the mill had constructed imitations, and with these the usual atomizers may be required.)

The machinery from blow room to spinning is Howard & Bullough; it is as follows:—

- 1 Hopper bale opener, 38 ins., No. 7 type.
- 3 Hopper feeders, 38 ins., No. 9.
- 3 Porcupine feed tables, 38 ins.
- 3 Double Crighton openers.
- 3 Exhaust openers, with single scutcher and lap machinery.
- 4 Intermediate scutchers.
- 4 Finisher scutchers.
- 56 Flat cards, 37 ins., on wire, with Cook's vacuum stripper.
- 12 Drawing frames, each of two heads: one head, four deliveries; one head, five deliveries; 16-in. gauge.
- 4 Double-driven slubbing frames, 104 spindles, 4 ins., 17½ gauge.
- 9 Intermediate frames, 130 spindles, 6 ins., 19½ gauge.
- 22 Roving frames, 164 spindles, 8 ins., 20½ gauge.
- 30 Twist ring frames, 324 spindles, 2½-in. gauge; 5-in. lift.
- 30 Weft ring frames, 376 spindles, 2¼-in. gauge, 5-in. lift.
- 4 Weft-doubling frames, Scotch system, 308 spindles, 2¼-in. gauge, 6-in. lift.

All the bearings of the shaftings are ball bearings. Individual motors throughout, except cards and preparatory frames. All the spinning frames are tape driven, with individual motors with varying speeds. The ring frames have all the four-roller-high draft. There are 60 "Leesona" Universal pirn winders, No. 90; all the weft is re-wound, and each pirn is supposed to hold three times the amount of yarn generally put on a ring-frame bobbin. "Leesona" high-speed warping creels, with Howard & Bullough high-speed warping mills, are in use, producing per shift 90,000 yards of 20's, 24's and 40's, in place of 20,000 yards.

The weaving machinery is from Willan & Mills, Blackburn; the looms range from 36 ins. to 66 ins. reed space. There are 264 Terry dobbies, 6 sizing machines, 2 hydraulic cloth presses, 3 cloth-folding machines, and 14 drawing-in frames. The looms are very fast running; particulars of speed will be given later.

The calenders are by Lang Bridge, Accrington; they have worm drive, buffoline—noiseless. There is a 70-ft. stentering frame.

The roofing is of asbestos cement. During the hot season the roof will be sprayed with water three times a day.

The following are some details of production, etc., taken by myself from the records of the mill (three-days' averages):—

	20's Warp.	40's Warp.	14's Warp.
Production ...	8.15 ozs.	3.6 ozs.	11.25 ozs.
Lea test ...	61 lbs.	42 lbs.	82 lbs.
Turns per inch...	16.6	22.1	15.8

14's, 16's and 20's from Broach.

TECHNICAL SECTION

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	30's Weft.	60's Weft.	16's Weft.	20's Weft.
Production ...	4.2 ozs.	1.85 ozs.	8 ozs.	6 ozs.
Lea test ...	36 lbs.	21.25 lbs.	67 lbs.	47 ozs.
Turns per inch.	20.4	28.3	15.9	17.3
	21/31's from Surat.	40/60's from Kampala.		

The managing director was not satisfied with the production of 8.15 ozs. for 20's warp, and made a successful effort to increase the production. Over three days the production per 10 hours averaged 8.8 ozs.; in the night shift it was slightly higher. With a special effort slightly over 9 ozs. was reached.

The spindles started with 6,000 revolutions; in less than five minutes they were running on 9,000, and after ten minutes on 11,000 revolutions per minute. The yarn rapped 20.3's; it had 17.7 turns per inch, and showed 70 lbs. of a lea test. Surat mixing.

Looms. Production, 64 yds., 50 ins. reed space, grey shirting, 12 picks per $\frac{1}{4}$ in. in 10 hours. With 10 picks per $\frac{1}{4}$ in., 66 yds., 58 ins.

Actual picks:	26-in. reed.	48 ins.	60 ins.
	242	210	190

Throughout re-wound weft is used; 90 per cent. efficiency. Group drive for looms.

Wages: Ring tenter, Warp, Rs.27-10-0 for 28 days; weft, Rs.28-8-0 for 28 days. Weaver, Rs.56 for two looms.



Photo by Hamilton Studio, Bombay.

Doubling Department, Monogram Mills, Ahmedabad.

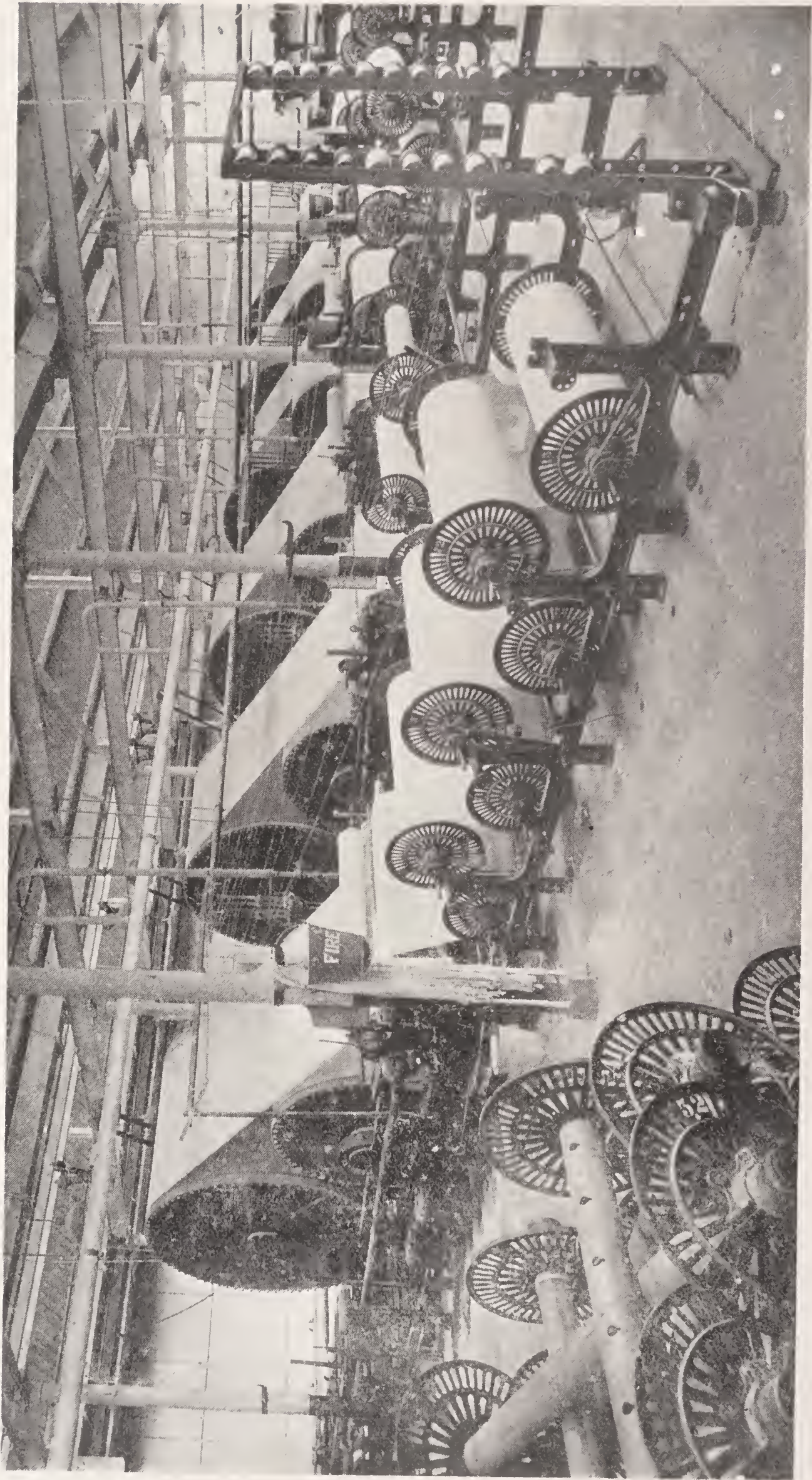
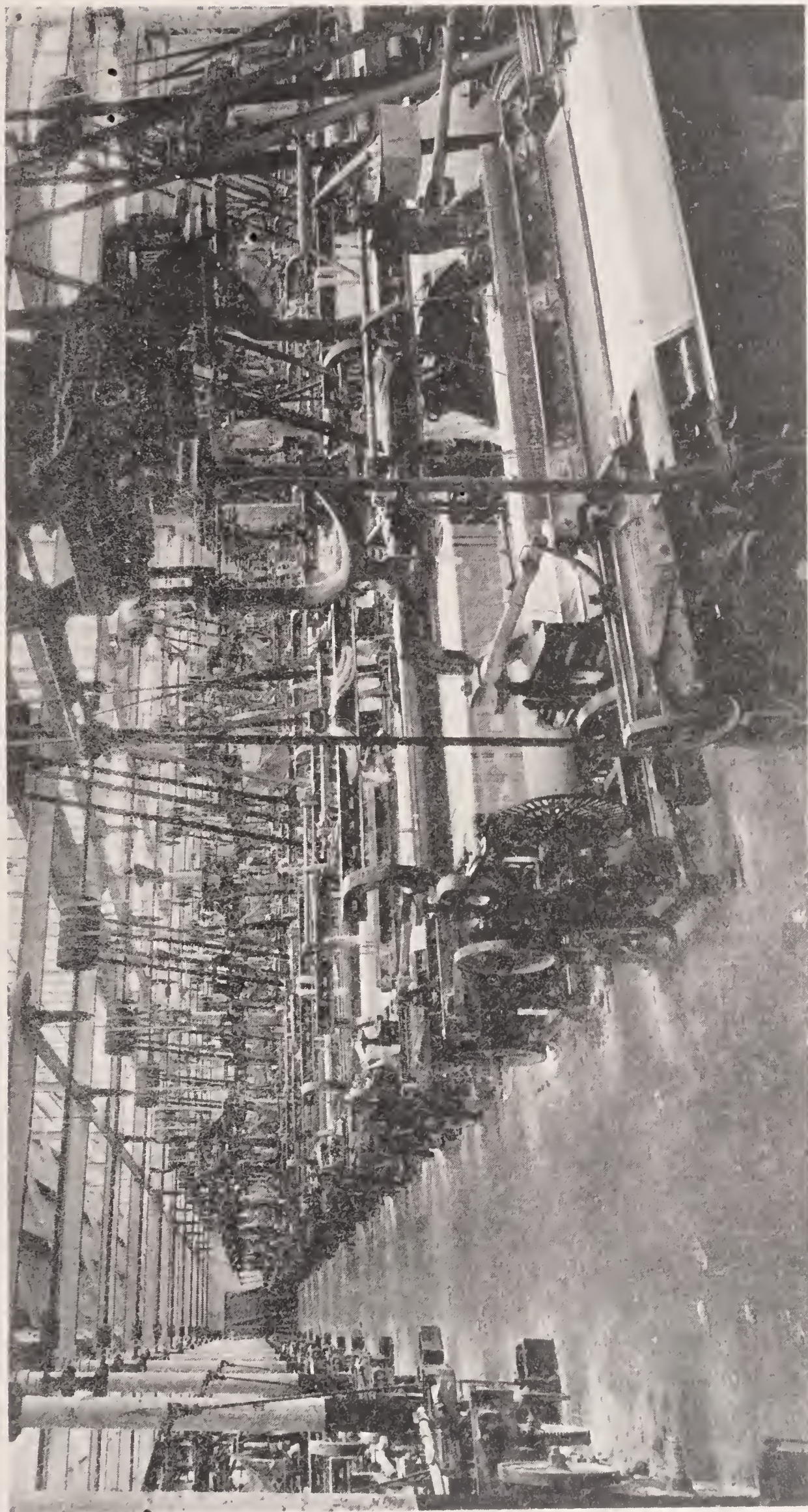


Photo by Hamilton Studio, Bombay.

The Spinning Room, Monogram Mills, Ahmedabad.



The Weaving Shed, Monogram Mills, Ahmedabad.

Photo by Hamilton Studio, Bombay.

Bleaching by washermen—sun bleach. Finishing by machinery. Bleaching costs (6 yds.) = 1 anna, any width. Steam and water found.

The output at night is generally slightly *higher* than in the day shift.

The sizing is very heavy, in some instances 120 per cent.

The wages in this mill represent not quite 20 per cent. of the value of the goods.

MILL No. 21

The following are actual productions taken from the record sheets of the mill:—

24's warp. 6.88 ozs. (10 hours), works out to 8,256 ozs. for 20's (full 24½'s beam rapping). 61 lbs. test.

34's weft = 3.97 ozs. 36 lbs. test (full 34½'s).

40's warp (from Kampala cotton) = 3.21 ozs. 41 lbs. test 39.70's beam rapping).

60's weft = 1.775 ozs. 21 lbs. test.

The above are the average figures of six days.

A good mill with 16,800 spindles, producing nothing but 20's, should give in 25 days 420,000 lbs. Number of operatives required, including fitters, jobbers, etc., 16 per 1,000 spindles.

Costs. The labour—wages only—is 8.76 pies = $\frac{3}{4}$ d. up to *spindle point*.

A modern weaving mill can produce cloth 20's warp, 30's weft, at 6 annas per lb. (all except cotton).

Nos. 20 and 21 mills are the highest producing mills which exist in India—and probably few, if any, in Europe, can beat this production.

MILL No. 22

				Warp	Weft
37,000 spindles, 900 looms.	Principal counts:				40's 50's
Production about	...	...	...	3 ozs.	2 ozs.
Turns per inch	...	...	...	22	24
Lea test, lbs.	...	...	...	40	24

Tweedales & Smalley's machinery.

One operative looks after 372 spindles warp and 420 spindles weft. This is high for India and it is only on account of the higher counts spun that the mill was able to get this number of spindles per operative accepted.

Spindle speed: 9,700 actual for 40's warp.

The mill works day and night, but no profit is being made. No extra wage is being paid for artificial silk border in dhooties.

Loom production: 55 yds., 46 ins., 12 picks per $\frac{1}{4}$ in. — 40's × 50's, 190 picks on an average, 80 per cent. efficiency.

MILL No. 23

1907 construction—28,000 ring spindles, 702 looms. Spinning 20's to 60's mostly 20's to 30's, averaging 29's.

One ring tenter looks after 170 spindles warp and 210 weft. One weaver to two looms, the former earns Rs.28 and the latter Rs.48 to Rs.50 per month, average 26 days. Payment of wages every 16th day in the spinning and every 14th day in the weaving. There is an old and new section, the latter giving $\frac{1}{2}$ oz. more per 10 hours for 20's.

20's Old Mill	20's New Mill	30's New Mill
6 $\frac{1}{2}$ ozs.	7 ozs.	3.20 ozs. (old mill 3 ozs.)
18 $\frac{1}{2}$ to 19 turns		22 to 23 turns
62/63 lbs. test		about 30 lbs. test.

32's warp made out of Kampala. 3.8 ozs. production. 50/52 lbs. test.

Power, labour and overhead (stores, etc.) were estimated to cost on 20's 1 anna 6 pies, i.e., all expenses except cotton.

The old machinery was Platts' 1907, the new (1923) Howard & Bullough. For 20's the calculated spindle speed was 10,000, 187 front-roller revolution, 5-in. lift, 1 $\frac{7}{8}$ -ins. diameter.

There were also some Howard & Bullough 1929 high-draft ring frames, 45's weft, 12 of a draft, calculated spindle speed 10,000, 160 front-roller speed. $\frac{7}{8}$ -in. Tape drive, production 3 ozs. per 10 hours. Two rovings.

The looms were working with 210 picks 46 ins. reed space, about 80 per cent. efficiency.

The coal in this mill, as well as in most mills, is provided by a contractor; in this case he gets Rs.210 per 10-hour day, to produce 1,100 h.p.

Hand bleaching in this mill costs 1 $\frac{1}{4}$ pies per yard, contractor provides everything except water. Average width of goods 40 ins.

MILL No. 24

There is a new and old section, the new part produces $\frac{3}{4}$ oz. per spindle more in 10 hours—20's warp—than the old one.

It is assumed that in the new mill wages, power and overhead come to 1 $\frac{1}{2}$ annas per lb., 20's up to spindle point. For 1,000 spindles 20's they reckon 16 operatives and for 100 looms, grey calender state, 65 operatives. In this mill they have also two sides per ring tenter for the finer counts.

The new mill is able to compete with Japan, but not the old one.

MILL No. 25

There is also an old and new mill in this concern. In the new mill, which has 43,000 spindles, the average counts are 55's. It is probably the finest average count of any mill; they spin as high as 100's weft and have a small combing plant. They have also a small

sewing cotton plant (Ayrton). The machinery is Dobson & Barlow (1922).

100's weft—production, 0.8 ozs. per 10 hours. 5-in. lift, 12.14 lbs. test.

70's warp, production 1.3 ozs., 28 lbs test.

There is a dyeing and bleaching plant on modern factory lines.

This mill is doing well: in February the production was sold up to May. 14 per cent. dividend. The mill works day and night.

They were making a longcloth of Egyptian cotton in competition with Horrockses Crewdson & Co.

I saw here the first singeing machine in India—with four rows of flames.

The agents of this mill own eight ginning factories in Uganda.

Difference in Labour Cost between India and England.

The spinning master of this mill, a Lancashire man, assured me that he could spin at almost half the labour cost of Lancashire, and the weaving works out to 25 per cent. dearer in England than in India, but the efficiency in England is 8 to 10 per cent. higher and the goods produced are much more perfect.

MILL No. 26

This up-country mill was started in 1889, but additions have frequently been made. There are 40,000 spindles, of which 8,000, and a further 8,000 spindles have recently been ordered. There are 1,850 looms. The mill works day and night, altogether 18 hours.

It has a small capital—only 10 lacs—but plant and building are worth 76 lacs. Last year 50 per cent. dividend was declared, and since its existence something like 750 per cent. have been paid out, yet when issuing the last balance sheet, the Secretary stated that unless the Government comes to the assistance of the cotton industry by means of protective duties the industry is "doomed."

In place of managing agents this mill has two brothers as secretaries, who receive 10 per cent. of the profits as remuneration. The directors meet once a month.

There is a plant for the use of pulverized coal; after months of trials, it is working satisfactorily. The boilers are by Stork Bros. & Co., Holland, and, though 30 per cent. cheaper than other boilers, are stated to give full satisfaction.

Altogether 5,500 operatives are employed; most of them live in houses of the Company, for which they pay half to two-thirds of the economic rent.

The spinning machinery is mostly of Tweedales & Smalley, a little of Dobson & Barlow. Motors and switches are German. All the bobbins are by the Indian Bobbin Co. Looms are from Dickenson and Hacking. The foundation for the new mill was laid on November 25th, 1924, and 20,000 spindles and 500 looms operated on the 23rd November, 1925. All pulleys, pedestals, etc., were made in the workshop of the mill. They also made a humidifying plant of the Carrier type.

The counts spun are 10's, 14's and 16's, principally the lower ones. The production converted to 20's is equal to 6.7 ozs. per 10 hours. They prefer in high drafts 'Tweedales' four-roller system.

This mill obtained from Japan, prior to Platts taking over the patent rights, 20 Toyoda automatic looms, 45 ins. reed space. So far they have only four looms per weaver, but they feel certain that they will get their operatives to attend to 10 or 12 looms. At present the looms make 186 picks per minute, but they do not think that they will have any difficulty in speeding them up to 220 (45 ins. reed space). In any case they are very satisfied with the looms. The efficiency of these looms is 82 per cent., but at one time they obtained 87 per cent.. On their ordinary looms the efficiency is only 76 to 77 per cent. They also had two Toyoda circular winders, which they considered cheap and good.

There is a dyeing and a bleaching plant (not a hand-bleaching). The jiggers were all made in the workshop. The spraying plant for cooling the water had also been made in the workshop of the mill. They even made a few looms, but found them more expensive than buying the looms, as they were making too few.

This mill has its own six selling places distributed over India. As it is a northern cotton mill, it should have advantages of freight for its goods to Kashmere, Punjab, etc.

They are making quite a variety of cloths, stripes, coloured goods (dyed), Turkish towels, jacquard bedquilts, fast khaki; white shirtings, longcloth, drills. The weaving was somewhat defective, but the mill was kept clean, considering the low counts spun.

Welfare Work. This firm makes a real effort to come close to the operatives, anyone of whom is at liberty to come into the office and complain. The secretaries hold periodically meetings with the workpeople and separate conferences with the mill officials. No victimization is permitted. It was evident from the way in which the operatives saluted one of the secretaries during my visit that there was quite a different relationship between master and men than in most mills which I had seen in India. With a view to encouraging schooling, they are paying Rs.4 per month over and above to any operative who has attended school up to the fourth primary class. An annual bonus is paid. Weekly advances are made. A provident fund has been created, to which every workman must contribute some part of his earnings, and the company adds an equal amount, plus interest. A mutual relief fund for festive occasions, sickness and old age has been established. This has nothing to do with the Workmen's Compensation Act. Free education is given to the children of mill parents. Every year a recreation day is held, with shows, wrestling, sports, swings, cinemas. Each operative gets tickets for this recreation day to enable him to obtain free sweets, fruit, ice cream. On this occasion the mill closes two full days. Half an hour each day, before opening the mill and after closing, music is broadcasted in the mill yard (from gramophone records). 35 per cent. of the mill's capital is held by workers in the mill (this includes, no doubt, the

secretary and his family). The mill is entirely managed by Hindoos. There has never been a strike in this mill.

MILL No. 27

The mill was not efficiently managed; there seemed to be a great deal of waste—they said 18 per cent. in all, but I think it must be more.

They gin much of their cotton; the seed cotton is piled up in enormous stacks, and the whole year's cotton supply is lying about in different places, partly baled and partly loose.

The mill building is old, but the machinery dates only from 1923.

The total operatives number 1,300, with average wage of Rs.32 per month. 10 hours' work per day.

Low counts are spun, and, of course, it depends more on the judicious purchase of the cotton than on anything else, whether the mill makes a profit or a loss. So far no dividend has been earned.

Particulars of production are:—

	10's Warp.	12's Weft.	16's Warp.	18's Warp.	24's Weft.
Production...	13½ ozs.	9 ozs.	8½ ozs	7.7 ozs.	5 ozs.
Twist ...	15-15½	14	16	17	22
Pounds test...	85-95	45-55	68-70	52-58	30-35

Looms: 10 hours, about 63 yds. 35 × 36. 13's warp; 15's weft. Say 17 to 18 lbs.

Average wage per weaver for two looms, Rs.45 per month.

The mill works day and night.

The sizing is very heavy. One special warp was being sized 150 per cent.; the average is 50 per cent.

They re-wind only coloured weft. The warping mills do 16,000 yds. only in 10 hours. 8's, 10's, 16's and 20's. Wage, Rs.45 per month.

In the winding room one man attends to 15 or 20 spindles. There were in a little room 65 men on four frames of 300 spindles, earning Rs.20 to Rs.22 per month. They seemed very clumsy, and made a great deal of waste. No knotters used.

As the women in this district wear wide skirts, it is difficult to employ them in the mill. In the ginnery only women were employed, earning Rs.10 to Rs.12 per month, a miserable pay, if one considers the dusty, dirty atmosphere in which the work is carried out. They gin 492 lbs. in 10 hours per gin.

In the spinning room one operative looked after 160 spindles, and received Rs.20 for weft and Rs.21 for twist.

A Carrier plant for humidification had been made in the machine shop, but it was not functioning, as they said that it was not warm enough. They had vaporizers working.

The efficiency of the looms was only 72 per cent.

They had a dyeing plant. The cloth was dried in the sun,

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stretched out on the grass. Bleaching was done by washermen at a contract price of 9 pies per pound.

The agent received for selling the goods and guaranteeing the account Rs.1-10-0 per Rs.100.

The goods were very leafy and defective in weaving. All cloth was stamped by hand. Every piece had a stamp, "No tallow used in this cloth," as the Hindoos object to tallow on religious grounds.

There was a yarn-conditioning chamber on the lines of the Lancashire ones.

Welfare Work. A less successful, yet praiseworthy, attempt than in Mill No. 27 is made to come close to the workpeople. The operatives' lines of houses were clean, paved streets; the rooms, 12 ft. x 10 ft., are let at the price of Re.1 per month. There is a maternity ward on a very primitive scale, a dispensary, a whole-time doctor. They have a school with an attendance of 200 children.

MILL No. 28

18,000 ring spindles, 32,000 mule spindles, 1,200 looms, bleaching and dyeing plant. The effect of the presence of a large number of Lancashire inside managers is reflected by the relatively high proportion of mules to ring, but lately everywhere the rings are replacing the mules.

There was one of Platts' mules of 1881 still at work at this mill. Average counts, 16's.

The details of production are:—

22.5 Warp Ring	14 Warp.	15.3 Warp
4.8 ozs., 10 hours.	10.5 ozs.	8 ozs.
21 turns.		
68 lbs.		
	20's Weft Mule	
	4 ozs.	

For mules they employ eight operatives to a pair.

On ring frames two piecers to 352 spindles, and a doffer for each frame.

The standard number of operatives in this mill is 2,943; there were present 2,691; 252 being absent, and 99 sent substitutes.

Up to spindle-point they calculate to have 13.2 operatives per 1,000 spindles.

The looms were not reaching 60 per cent. efficiency.

200 picks, 45 ins. reed space.

200 picks, 36 ins. cloth.

Wages of ring tenters, Rs.18 to Rs.20. Weavers average Rs.42, but they vary from Rs.36 to Rs.50.

Kinds of cloth made: Grey shirtings, striped shirtings, dhooties, drills, khaki, tent cloth and towels.

The dyeing plant was covering up the very leafy appearance of many cloths.

MILL No. 29

This is a new mill—built 1923; the directors are in receipt of a salary, and do not work on commission.

23,000 ring spindles, Howard & Bullough.

648 looms, Butterworth & Dickinson.

Approximately 900 operatives; never more than 5 per cent. absent.

Production figures:—

22's Warp.	30's Warp.	40's Warp.	50's Warp
5½ ozs.	3.5 ozs.	2.75 ozs.	2.25 ozs.
60	30	40-45	30 lbs. test
Turns ... 22-22½		25 to 26	

Looms 80 per cent. efficiency in cold weather; 70 per cent. to 75 per cent. in hot weather.

50 ins. reed space ...	...	175 picks
62 ins. ,, ,, ...	...	160 ,,
36 ins. ,, ,, ...	...	195 ,,

Cottons used: Punjab-American, Ujjain, Uganda. The freight per 400 lbs. bale from Bombay to Cawnpore is Rs.10.

The costing in this mill for spinning and weaving combined, average 26's, comes to 6 annas per lb., including everything except cotton.

Wages are paid fortnightly.

Ring tenters per month, Rs.18-10-0.

Weavers, Rs.45.

Warpers, Rs.60.

Jobbers, about Rs.90; they receive 2 annas 3 pies per rupee of weavers' wages. A jobber has generally 18 men under him, and he tackles 36 looms.

Drawer-in, Rs.60 to 65.

The men who receive high wages are subject to severe fining if the work goes wrong. The generally accepted system is that the operative buys the cloth spoilt at cost price.

No women or half-timers are employed.

For 45 cards they had the following staff: 3 strippers, 4 can minders, 3 lap carriers, 1 sweeper and 1 waste picker.

They recently bought a doubling frame, as they had to pay excessive prices for 2/40 imported yarn. On their Arundal frame they produce 2/40 at a cost of Rs.1-2-0, saving about 5d. per lb.

Loom production: 32's, 40's, 48's, picks: 60 yds. in 10 hours.

Cost of electricity: 0.66 annas per unit.

Saving through Double Shift: Half the mill works day and night. The saving achieved when the mill works day and night is 1 anna per lb. of cloth, or one-sixth of the whole of the charges except cotton.

MILL No. 30

This is a recently built mill—Dobson & Barlow, 1922. It has 45,000 ring spindles and 1,050 looms. Only fine goods are produced. Average counts 36's. 1,700 operatives.

Production Figures:—

22's	60's combed warp	
5.25 ozs.	1.20 ozs. to 1.25 ozs.	80's weft is also produced.
	Turns per in., lbs test ...	19-22 34
		64 26-27.

Loom efficiency was given as 84 per cent., which seems too high; of course some people deduct in their efficiency calculation the time during which the loom is stopped for warp beam changes.

They weave only fine dhoties and gave me one of their 60's by 80's.

Production about 62 yds. average 46 ins., 46 picks, 10 lbs.

Wages:—

Weavers, Rs.42.
 Warpers, Rs.60.
 Sizers, Rs.40 to Rs.45.
 Ring Tenters, Rs.22.

Costings. Finished cost about 9 annas per lb. not including cotton, nor depreciation. In this fine mill they reckon $1\frac{1}{2}$ to 2 annas per lb. for depreciation.

The cottons used are: Egyptian and Memphis for 60's.

This is probably the only mill in India which has 6 combers, one man to each, at a wage of Rs.20 per month.

This mill sells its own production and that of another mill in the bazaars.

In this mill the ring frames have 600 spindles and one tenter looks after one side of 300 spindles. Wage is Rs.22. $6\frac{1}{2}$ ins. lift, $1\frac{1}{8}$ ins. and $1\frac{3}{4}$ ins. diameter, 9,500 revolutions. 50's all double roving.

60's spun out of American cotton has 28 lbs. tests.

The weaving shed has a Carrier system of humidification and cooling.

The warping mill makes 5,000 yds. per hour.

Lang Bridge calenders.

There is also a small waste plant for making coarse yarn for the bazaars that is to be used on hand looms. A 10 lbs. bundle of 2's (which really is about 4's) costs to-day in the bazaar Rs.2-6-0. = about 4d. per lb.

MILL No. 31

It is not a paying concern now, but evidently had been allowed to get neglected. A change of management has been made, and many reforms are taking place.

63,828 mule, 14,272 ring, 910 condenser spindles, 975 looms. Dyeing and bleaching plant.

Wages. Ring tenter, Rs.18 to Rs.24. Three operatives per frame of 440 spindles.

Weavers. There are many one-loom weavers, learners, who get Rs.22, but a two-loom weaver earns Rs.50 per month.

Production per spindle of 20's averages only 5 ozs., and loom efficiency was given as 62 to 64 per cent., including all stoppages.

Blow-room machinery by Lord Bros. seems very general in India.

MILL No. 32

This is a complex of mills standing in 35 acres of ground. It is the most lucrative mill in India, which largely owes this position to the purchase of two years' cotton consumption at the outbreak of the war, which laid the foundation to huge reserves. Every year £15,000 are spent on new machinery; ample depreciation is allowed, and over 50 per cent. dividend paid.

Spacious yards, exceptionally clean, both inside the mill and outside. Mill fabric in fine condition.

Mail order business and selling agents; only day shift.

Replacing mules by ring.

Lord Bros.' blow-room and ring frames.

Platt Bros.' rings and cards; vacuum cleaners.

Tape-driven spindle frames were somewhat too deep for the building.

Dye plant, bleaching, tent and carpet weaving by hand in mill yard.

Waste plant (Tatham); doubling, Hicks' steam engine. Electric power was too dear when a new engine had to be bought.

Whilst when I visited this mill 20 years ago they had to have 25 per cent. more people on the books than they actually required, owing to absentees and malingering, the percentage of absentees is now very small. A permanent mill population has come into existence, and every day extra supply of labour offers itself.

The engine does not stop from 7 to 12 and from 1 to 6. The workpeople go out for about one-quarter of an hour or so to have some food and a smoke in the corner of the mill yard; the machines are not stopped; generally someone undertakes to look after the machines of a friend whilst he has his food and rest, in addition to his own work. This system applies to the whole of India, and it is probably due to the absence of proper meal times that there is such a constant stream of operatives going and coming in the mill yards, and partly it is due to this system of a friend looking after additional machines during his temporary absence that they will not or cannot be made to work more machines than they do.

MILL No. 33

Lines of workmens' dwellings, clean paved yards, with bathing houses and septic tanks. Rent per room 12 annas per month, which is below the economic rent.

Working hours, 6-30 a.m. to 11-30 a.m. and 1 p.m. to 6 p.m.

Coal is cheap, actual cost Rs.4 per ton and freight to mill Rs.4-1-10.

In this mill they are spinning only up to 24's, average 15½ to 16's all bundle yarn for domestic weaving. Ring frames only. (Platts' 1897) 34,446 spindles 246 reels in one room (40 hands each).



Lines of Workmen's Dwellings.

Cottons used: Bengal, Omrahs and for the higher counts Punjab-American and Cambodia; the latter comes by water from the south of India. Mills here need not keep a big stock of cotton; 2½ to 3 months is all they require, as they have many merchants here who keep stock.

MILL No. 34

12,000 spinning spindles, 4,300 doubling spindles, employing altogether 320 operatives. (Howard & Bullough, 1927.)

This mill makes exclusively a three-fold selvedge yarn of 16's single, used extensively in the neighbouring jute mills. The yarn has to be very strong, but the cotton need not be white.

The cotton used is Cocanada cotton and Western. The percentage of dirt in these cottons is high; altogether 20 per cent. waste, but the strength is good.

Howard & Bullough 1927 spinning and doubling machinery. Blow room by Lord Bros.

The spinning production for 16's (no other counts are spun) is 8.5 ozs., 16 turns per inch, breaking test (personally watched) 68, 70 and 80 lbs.

There is only one side for each tenter to look after; they have hardly anything to do, but they will not take on more spindles except at full rate of wages.

90 "Leesona" winding frames. On the first with three ends up they produce per spindle 18 lbs.; on the final winder, where they make 5 lbs. cheeses, they produce 35 lbs. per 10 hours per spindle.

Wages per Week. First "Leesona" winder Rs.7 to Rs.9 and finishing winder Rs. 6-8-0 (60 hours).

Ring tenter in the spinning about Rs.5-8-0 per week or Rs.22 per month.

MILLS No. 35 and 36

47,000 spindles, 1,400 automatic Northrop looms, bleaching and dyeing plant.

50,000 spindles, 1,350 automatic looms, 150 ordinary looms, bleaching and dyeing plant.

These two mills, the Buckingham and Carnatic, are managed by the same agents, Messrs. Binny & Co., who have been able to pay a 10 per cent. dividend for a number of years. The two outstanding features of these mills are: in the first instance the most excellent welfare work existing in India, schooling, feeding of school children, schooling of adults, operatives' committees, works' councils, etc. (of which full particulars are given at the end of Labour Chapter). In the second place, we have here the first successful introduction of automatic looms on a big scale.

This firm started putting down automatic looms of the British Northrop Loom Company in 1921, and they have gradually replaced all the plain looms, with the exception of some 150 looms, which are producing checks. This alone shows that the automatic loom, even in India, has proved to be a success, although one weaver looks only after six looms, and he has a helper, consequently one might say three looms to an operative. The wages earned by a Northrop weaver vary from Rs.45 to Rs.50 per month, and considering that wages in Madras Presidency, particularly south of Madras, are lower than anywhere else, this is a high rate. Full-time ring-spinning boys can earn as much as 9 annas 6 pies per day. Winders and weavers earn up to Rs.1.10 per day.

Though the firm did not give me any figures regarding the spinning and weaving production, the fact that they have gradually, by slow stages, replaced all their ordinary looms by automatics shows that even with so small a number of looms per operative it has paid the firm to introduce them.

Nothing but Indian cotton is used in the spinning. The cotton was well cleaned by the Buckley system. The spinning machinery was of Tweedales & Smalley's and Howard and Bullough's make (rings), and the average count was 19's. The production was 6.8 ozs.

High-speed warpers, "Leesona" frames, and Barber-Colman warp-tying machines were in use.

The looms were said to have an efficiency of 92 per cent. Practically all the weft used is re-wound.

The making-up room was an example of cleanliness.

I could not help but be astounded at the difference in the quality of weaving, the absence of defects in the goods made in this mill as compared with those in the rest of India. It proves once more that a weaver with an automatic loom cannot help but turn out more perfect goods than with an ordinary loom.

A large range of fancy stripes, suitings, shirtings, towellings, checks, mercerized stripes, wide sheetings, were being made in both mills.

The whole mill was clean and tidy, no doubt due to the excellent welfare work and training, as well as to the constant supervision of a European in each department.





Costings of Yarn and Cloth. Economies of Double-Shift System

In view of the statement made by the Indian Government that Japan has an "unfair" advantage through being able to work double shifts in her mills, the following calculations and arguments, taken from the "Noyce" Report, will be of interest to readers in many countries :—

"The Bombay Mill Owners' Association have pointed out the great difficulty of ascertaining the exact advantage which Japan derives from the employment of women and children at night, which makes double-shift working possible. They have calculated it at 5 per cent., their basis being the manufacturing costs shown in the table below, which, it may be noted, are the all-in costs of manufacture of cloth in an efficient mill in Bombay, that is, the average cost per pound of all cloth manufactured in this particular mill. The costs are those for 1924, but there has been little change since then, except for the abolition of the excise duty and a slight reduction in the price of coal and stores :—

	Pies per lb.
Coal	10·09
Stores	14·46
Labour	39·69
Office and supervision	3·41
Fire Insurance	1·67
Municipal and other taxes	1·57
Interest	5·66
Commission on cloth	4·60
Excise duty	9·35
Dyeing charges	4·40
Agents' commission	0·83
Income-tax and super-tax	1·94
<hr/>	
Total, including agents' commission, income-tax and super-tax	97·67

The Bombay Mill Owners' Association consider that, of the costs of the production shown in this table, supervision charges of 3·41 pies, fire insurance charges of 1·67 pies, municipal taxes of 1·57 pies, and half the interest charges, amounting to 2·83 pies, could be saved by double-shift working, a total of 9·48 pies per pound on a total cost of 97·67 pies per pound. This is approximately 10 per cent., which represents 5 per cent. of the whole cost of cloth with cotton at the price ruling when the Association's representation was

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submitted, that is, in July, 1926. The calculation is open to several very obvious objections. The excise duty should be omitted, as should income-tax and super-tax, which are only payable on profits. Agency commission, in the case of those mills which pay commission on profits, is only a manufacturing cost to the extent to which a minimum commission is provided for in the agency agreement. On the other hand, no allowance for depreciation has been included, and it is incorrect to show the whole of the fire insurance charges as a saving, as we understand that when a mill works double shifts these charges are higher than they are for one shift only. The better plan, in our view, is to take the actual manufacturing charges and overhead costs in the form in which we obtained them from the mills, and to base the calculation on these. It should, we think, be based on the actual costs per spindle per day and per loom per day in a Bombay mill.

In the table below we therefore show, on the basis of the average figures for cost of production supplied by Bombay mills, what the actual saving in overhead charges per loom per day would amount to if the mill were working double shifts both in the spinning and weaving departments. It will be seen that we have worked out the figures for two mills, one turning out cloth of counts of yarn averaging 20's and the other turning out cloth of counts of yarn averaging 32's. Our basis of production is 13 lbs. per loom per day in the one case and 8½ lbs. per loom per day in the other :—

OVERHEAD CHARGES (INCLUDING THOSE DUE TO SPINNING CHARGES)
PER LOOM PER DAY FOR SINGLE AND DOUBLE SHIFT WORKING

	Mill turning out cloth of average 20's counts (On the basis of 30 spindles to one loom)		Mill turning out cloth of average 32's counts (On the basis of 35 spindles to one loom)	
	Single shift	Double shift	Single shift	Double shift
	Pies	Pies	Pies	Pies
Taxes	11·16	11·16	11·16	11·16
Insurance	16·06	24·08	15·40	23·10
Repairs to buildings ..	7·82	9·78	7·82	9·78
Salaries of supervising staff	36·91	49·20	36·91	49·20
Office expenses	16·12	16·12	16·12	16·12
Miscellaneous charges ..	17·59	17·59	17·59	17·59
Interest on working capital	70·61	78·78	69·68	78·60
Depreciation on buildings and machinery ..	117·13	220·00	115·74	218·35
	293·40	426·71	290·42	423·90
Less gain in interest on depreciation funds at 6 per cent.	—	30·85	—	30·78
	293·40	395·86	290·42	393·12

The charges for the double shift have, of course, to be halved to arrive at the charge per shift. The difference between this and the charges for working single shift represents the saving which

accrues from working two shifts. The actual saving due to double-shift working in a mill turning out cloth of average 20's counts thus amounts to 95.47 pies per loom per day.

It should be explained that our calculation differs from that made by the Bombay Mill Owners' Association in several respects. We have calculated the additional cost of insurance for double-shift working at 50 per cent., for supervision at $33\frac{1}{3}$ per cent., and for repairs to buildings at 25 per cent. We have allowed for saving in depreciation on buildings, which we have calculated at $3\frac{1}{2}$ per cent. when a double shift is worked, against $2\frac{1}{2}$ per cent. for a single shift. We have further allowed for a saving in miscellaneous charges. Our calculation for interest on working capital is based on a working capital of Rs.1,000 per loom and Rs.30 per spindle for single-shift working for a mill turning out cloth of an average 20's and of Rs.1,100 per loom, and Rs.34 per spindle for double shifts. The figures for a mill turning out cloth of average 32's are Rs.1,000 and Rs.1,100 per loom and Rs.25 and Rs.29 per spindle for single and double shifts respectively. The last item in our table requires explanation. A mill which is working double shifts is able to build up a depreciation fund nearly twice as rapidly as one which is only working single shifts, and has the benefit of the interest on the additional amount it is able to place to depreciation. We give the details of the calculation under this head for a mill on 20's average counts: —

GAIN TO JAPAN DUE TO INTEREST ON DEPRECIATION CONSEQUENT ON DOUBLE SHIFT WORKING

Mill with 30,000 spindles and 1,000 looms (spinning and weaving 20's counts)

Cost of building	1,535,210 Rs.
Cost of machinery	3,011,503 Rs.

	1st year Rs.	2nd year Rs.	3rd year Rs.	4th year Rs.	5th year Rs.
(1) Depreciation fund at $2\frac{1}{2}$ per cent. and 5 per cent. : India—day shift..	188,955	377,910	566,865	755,820	944,775
(2) Depreciation fund at $3\frac{1}{2}$ per cent. and 10 per cent. : Japan—day and night shift	354,882	709,764	1,064,646	1,419,528	1,774,410
(3) Extra amount of depreciation earned	165,927	331,854	497,781	663,708	829,635
(4) Interest at 6 per cent.	9,955	19,910	29,865	39,820	49,775
(5) Interest per loom per annum ..	9.95	19.91	29.86	39.82	49.77
(6) Interest per loom per day (pies) ..	6.17	12.34	18.51	24.68	30.85

	6th year Rs.	7th year Rs.	8th year Rs.	9th year Rs.	10th year Rs.
(1) Depreciation fund at $2\frac{1}{2}$ per cent. and 5 per cent. : India—day shift..	1,133,730	1,322,685	1,511,640	1,700,595	1,889,550
(2) Depreciation fund at $3\frac{1}{2}$ per cent. and 10 per cent. : Japan—day and night shift	2,129,292	2,484,174	2,839,056	3,193,938	3,548,820
(3) Extra amount of depreciation earned	995,562	1,161,489	1,327,416	1,493,343	1,659,270
(4) Interest at 6 per cent.	59,730	69,685	79,640	89,595	99,550
(5) Interest per loom per annum ..	59.73	69.68	79.64	89.59	99.55
(6) Interest per loom per day (pies) ..	37.02	43.19	49.36	55.53	61.70

On our calculation, the economies which could be effected by double-shift working amount to 95.47 pies per loom per day, against 61.54 pies per loom per day, as calculated by the Bombay Mill Owners' Association. For the items, common to both calculations, the total, though reached in different ways, works out at

almost exactly the same figure, as will be seen from the table below:—

	As calculated above		As calculated by the Bombay Millowners' Association	
	Single shift Pies	Double shift (for each shift) Pies	Single shift Pies	Double shift (for each shift) Pies
Taxes	11.16	5.58	20.41	10.21
Insurance	16.06	12.04	21.71	10.86
Office and supervision charges.. .. .	53.03	32.66	44.20	22.10
Interest on working capital	70.61	39.39	73.58	55.19
	<u>150.86</u>	<u>89.67</u>	<u>159.90</u>	<u>98.36</u>

The saving in these items thus amounts to 61.19 pies per loom per day as calculated by us, against 61.54 as calculated by the Bombay mill owners. To these figures we have added, for the reasons given above, a saving of 2.93 pies on repairs to buildings, of 8.80 pies in miscellaneous charges, of 7.13 pies on depreciation of buildings and machinery, and a gain of 15.42 pies in interest on depreciation funds, making a total of 95.47 pies per loom per day. On the basis of 13 lbs. production per loom per day, this works out at 7.34 pies per pound of standard grey shirting. The present price of this cloth is about 12 annas a pound, and the economies due to double-shift working thus amount to 5.1 per cent. of the price of the cloth. For a mill turning out cloth of 32's counts the economies resulting from double-shift working would amount to 93.86 pies per loom per day, or 11.04 pies per pound of cloth. The selling price of cloth in this instance is about Rs.1-1-0 per pound, so that the economies resulting from double-shift working amount to 5.41 per cent. of the price of the cloth. It will thus be seen that our calculation of the advantage arising from double-shift working gives practically the same figure as that calculated by the Bombay Mill Owners' Association.

In comparing the relative position of the Bombay mills and those in Japan there is, however, an important advantage derived from double-shift working which cannot be overlooked. The saving of 7.34 pies per pound from double-shift working, which we have calculated above, is a saving on double the production. On the basis of 30 spindles per loom, the capital cost of a loom with spindles at to-day's prices is Rs.5,450. 8 per cent. is usually regarded in India as a reasonable rate of interest on capital invested in industrial enterprises. In order to obtain this return, a mill working single shifts would have to earn Rs.436 per loom per annum, or 270.04 pies per day. A loom working double shifts would require to earn Rs.218 per shift per loom per annum only, that is 135.02 pies per shift. Expressed in terms of prices of cloth, this means that a mill working double shifts can, on the basis of a production of 26 lbs. of cloth per loom per day, sell its cloth at 10.38 pies per pound less than one working single shifts, with a production of 13 lbs. of cloth per loom per day, and still earn the same return on capital, that is 8 per cent. If, therefore, to the

manufacturing cost were added the amount necessary to provide a return on capital of 8 per cent. the mill working double shifts would have a further advantage of 10.38 pies per pound, which would bring the total advantage up to 17.72 pies per pound, that is 12.30 per cent. on the basis of cloth at about 12 annas per pound. These figures are for a mill turning out cloth from yarn averaging 20's counts. For a mill turning out cloth from yarn averaging 32's counts the corresponding total advantage would be 13.04 per cent. The point which we wish to emphasize is that the ability to under-sell, owing to double-shift working, is not confined to the actual economies in working thus effected.

We would explain that our calculations have been based on double-shift working giving double production. The experience of the two mills actually working double shifts in India shows that this is a legitimate assumption, and that the production by night in India is not inferior to that by day.

It would have been more logical to give the economies due to double-shift working for spinning only before those for both spinning and weaving combined, but we have given the latter first in order to show how the basis on which we have worked differs from that adopted by the Bombay Mill Owners' Association. The figures for spinning only are presented in the table below. Here, again, we give the figures for two mills, one turning out yarn averaging 20's counts and the other of yarn averaging 32's.

OVERHEAD CHARGES PER SPINDLE PER DAY FOR SINGLE AND
DOUBLE SHIFT WORKING

	Mill turning out yarn averaging 20's counts		Mill turning out yarn averaging 32's counts	
	Single shift	Double shift	Single shift	Double shift
	Pies	Pies	Pies	Pies
Taxes	0.17	0.17	0.14	0.14
Insurance	0.26	0.40	0.20	0.30
Repairs to buildings ..	0.14	0.18	0.12	0.16
Salaries of supervising staff	0.42	0.56	0.36	0.48
Office expenses	0.25	0.25	0.22	0.22
Miscellaneous charges ..	0.27	0.27	0.23	0.23
Interest on working capital	1.11	1.26	0.93	1.08
Depreciation on buildings and machinery ..	2.34	4.42	1.97	3.74
	<u>4.96</u>	<u>7.51</u>	<u>4.17</u>	<u>6.35</u>
Less gain in interest on depreciation funds at 6 per cent.	—	0.62	—	0.52
	<u>4.96</u>	<u>6.89</u>	<u>4.17</u>	<u>5.83</u>

The charges for the double shift have to be halved to arrive at the charge per shift. The actual saving due to double-shift working in a mill turning out yarn of average 20's counts thus amounts to 1.51 pies per spindle per day. On the basis of a production of

6.4 ounces per spindle per day, this amounts to 3.8 pies per pound of yarn. The present price of 20's yarn is 9 annas per pound, and the economies due to double-shift working thus amount to 3.5 per cent. of the price of the yarn. For a mill turning out yarn of average 32's counts, the actual economies due to double-shift working amount to 1.26 pies per spindle per day. On the basis of a production of 3.2 ounces per spindle per day, this amounts to 6.3 pies per spindle per day. The present price of 32's yarn is 13 annas per pound for Japanese yarn and 11 annas for Indian yarn. The economies due to double-shift working thus amount to 4 per cent. of the price of the yarn in the one case and 4.8 in the other.

These calculations show the extent to which the economies obtained by double-shift working are more apparent in the higher than the lower counts, and go far to explain why the severity of Japanese competition is so much more serious in respect of counts over 30's. The different results obtained for the different counts render it impossible to assess the advantage obtained by the Japanese spinning industry in actual cost of manufacture owing to double-shift working, but in those counts of yarn between 30's and 40's, the price of which depresses the price of Indian yarn, it cannot, we think, be placed at less than 4 per cent. If to manufacturing costs is added the amount necessary to provide a return on capital of 8 per cent. on the basis of the capital cost of a spindle at to-day's prices of Rs.100, the mill working double shifts has a further advantage of 6.2 pies per pound when working on 20's counts, bringing its total advantage up to 10 pies per pound or 9.2 per cent. The corresponding figure, for a mill working on 32's counts, is 16.55 pies per pound or 10.6 and 12.5 per cent. respectively, according as the price of Japanese or Indian yarn of 32's counts is taken."

The "Noyce" Report contains also the following information on the cost of production in Ahmedabad and Bombay:—

"We present the results in the tables below, which give the average manufacturing and overhead charges per spindle per day and per loom per day for the very limited number of mills, in Bombay and up-country centres other than Ahmedabad, from which we have been able to obtain information. We should explain that, although strictly speaking, interest, commission and brokerage, depreciation on buildings and machinery and agents' commission should be included in overhead charges, the position and practice of the different mills vary so greatly in regard to these that no average struck from the figures we obtained would serve any useful purpose. The amount of interest paid varies with the financial position of the mill. Depreciation is taken as a charge on profits and not on production. The system of remuneration of managing agents differs, not only in the different centres but in the same centre, as does also the system of calculating expenses in connection with sales. In the table below we show the number of mills for which the average for each item has been struck. Where this is less than the total number of mills this is due to the fact that examination showed the advisability of omitting the figures of particular mills."

AVERAGE MANUFACTURING AND OVERHEAD CHARGES PER SPINDLE
PER DAY

				Bombay		Up-country centres	
				Number of mills taken	Pies	Number of mills taken	Pies
(a) MANUFACTURING CHARGES—							
Fuel and power	..	..	..	8	1.87	7	2.25
Stores	..	..	..	8	1.16	7	1.29
Repairs and upkeep of machinery				7	0.39	7	0.37
Wages	..	..	..	8	5.04	7	3.86
Total				..	8.46	..	7.77
(b) OVERHEAD CHARGES—							
Municipal taxes, Government							
assessment, licenses, fees, etc.				8	0.17	7	0.07
Insurance	..	..	..	8	0.26	7	0.46
Repairs to buildings	..	..		6	0.14	7	0.19
Salaries of supervising and technical							
staff	..	..	..	8	0.42	7	0.06
Office expenses at mill and regis-							
tered office of company	..			7	0.25	7	0.54
Miscellaneous charges	..	..		7	0.27	6	0.32
Total				..	1.51	..	2.24
Total manufacturing and overhead							
charges	..	..	..	..	9.97	..	10.01
Average number of spindles worked	..			8	52,749	7	51,136
Number of operatives per 1,000 spindles				8	24.2	7	27.6
Average wages							
{ Male				5	Rs. a. p. 1 2 5	6	Rs. a. p. 0 10 3
{ Female				5	0 13 2	6	0 6 4

AVERAGE MANUFACTURING AND OVERHEAD CHARGES PER LOOM
PER DAY.

				Bombay		Up-country centres	
				Number of mills taken	Pies	Number of mills taken	Pies
(a) MANUFACTURING CHARGES—							
Fuel and power	..	..	..	8	66.06	6	56.71
Water	..	..	..	7	2.86	5	2.76
Stores	..	..	..	7	55.58	4	76.69
Repairs and upkeep of machinery				7	11.63	6	8.63
Wages	..	..	..	8	317.64	6	255.50
Total				..	453.77	..	400.29

AVERAGE MANUFACTURING CHARGES PER LOOM—Continued

	Bombay		Un-country centres	
	Number of mills taken	Pies	Number of mills taken	Pies
(b) OVERHEAD CHARGES—				
Municipal taxes, Government assessment, licenses, fees, etc.	8	6.06	6	1.85
Insurance	6	8.26	5	10.63
Repairs to buildings	6	3.62	6	3.89
Salaries of supervising and technical staff	8	24.31	5	28.12
Office expenses at mills and registered office of the company ..	7	8.62	5	19.43
Miscellaneous charges	7	9.49	5	6.96
Total .. .. .	..	60.36	..	70.88
Total manufacturing and overhead charges .. .. .	..	514.13	..	471.17
Number of working looms	8	1,259	6	1,203
Number of operatives per 100 looms	7	93	5	116
		Rs. a. p.		Rs. a. p.
Wages { Male ..	5	1 13 5	5	1 1 10
Wages { Female ..	5	0 12 4	5	0 7 0

SPINNING

STATEMENT SHOWING PRODUCTION PER SPINDLE PER HOUR, CHARGES PER LB. UP TO SPINNING POINT, OF YARN AND EFFICIENCY IN THE SPINNING DEPARTMENT OF A FIRST-CLASS INDIAN MILL UP-COUNTRY DURING THE YEARS 1900, 1910, 1914, 1921 and 1928.

		1900				1910			1914			
Average actual hours worked per day during the year, excluding weekly cleaning time				11.86 hours		11.60 hours			11.28 hours			
				Pro-duction per spindle per hour Oz.	Charges per lb. Pies	Per-centage of efficiency	Pro-duction per spindle per hour Oz.	Charges per lb. Pies	Per-centage of efficiency	Pro-duction per spindle per hour Oz.	Charges per lb. Pies	Per-centage of efficiency
Count Nos.												
Reeling Yarn :—												
12's	1.257	9.588	87	1.099	11.076	86	1.143	10.922	86	
20's670	14.765	88	.654	16.771	83	.652	17.177	87	
Warp Yarn :—												
32's318	28.718	92	.294	36.196	88	.360	30.370	92	
American Cotton												
				1921				1928				
Average actual hours worked per day during the year, excluding weekly cleaning time				9.79 hours				9.74 hours				
				Production per spindle per hour Oz.	Charges per lb. Pies	Percentage of efficiency	Production per spindle per hour Oz.	Charges per lb. Pies	Percentage of efficiency			
Count Nos.												
Reeling Yarn :—												
12's	1.127	20.900	87	1.105	20.740	88				
20's647	33.647	83	.649	33.001	83				
Warp Yarn :—												
32's316	54.900	86	.323	53.992	84				

WEAVING

STATEMENT SHOWING WEAVING CHARGES PER PIECE OF CLOTH OF DIFFERENT SORTS DURING THE YEARS 1900, 1910, 1914, 1921, AND 1928, AND FIGURES OF EFFICIENCY OF THE WEAVING DEPARTMENT IN A FIRST-CLASS INDIAN MILL UP-COUNTRY IN THESE YEARS.

Years	DESCRIPTION OF CLOTH														
	Dhoty					Shirting					Dyer's cloth				
	Dhoty					Shirting					Dyer's cloth				
	Width of Loom	Speed of Loom	Reed	Picks	Warp Count	Width of Loom	Speed of Loom	Reed	Picks	Warp Count	Width of Loom	Speed of Loom	Reed	Picks	Warp Count
1900	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1910	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1914	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1921	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1928	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
CHARGES PER PIECE															
Years	Prepara- tory, Engine and other charges					Prepara- tory, Engine and other charges					Prepara- tory, Engine and other charges				
	Effi- ciency %					Effi- ciency %					Effi- ciency %				
	Wea- ver's wages					Wea- ver's wages					Wea- ver's wages				
	Pies	Pies	Total	Pies	Total	Pies	Pies	Total	Pies	Total	Pies	Pies	Total	Pies	Total
1900	22	7	29	—	—	65	33	98	—	—	71	34	105	—	—
1910	29	9	38	56.09	63.90	91	38	129	60.16	43	95	39	134	62.32	74
1914	29	10	39	61.92	63.26	94	40	134	61.19	44	96	42	138	64.34	76
1921	62	22	84	64.36	68.29	205	80	285	68.10	105	251	89	340	65.35	150
1928	57	24	81	65.70	67.30	185	85	270	67.05	97	232	92	324	66.30	146

The particulars given in the Appendix, in reply to questionnaires, show likewise the production per spindle and loom, as well as the labour cost, in a large number of mills visited.

The following table, giving a comparison between a Bombay mill which has been rationalized and that of a mill in the Southern States of U.S.A., was obtained from a Bombay mill man who had made a close study of conditions in America as well as in Bombay.

COMPARATIVE STATEMENT BETWEEN A COTTON MILL IN THE SOUTHERN STATES OF AMERICA AND A FIRST-CLASS COTTON MILL IN BOMBAY.

MILL IN SOUTHERN STATES OF U.S.A.

This mill makes a good many cloths for export, such as jeans, drills and sheetings with average count 15's. Marked for shipment to Zanzibar, Madras, Calcutta, Bombay and Karachi.

The mill has 23,000 spindles and 800 looms, with 35 ins. to 44 ins. reed space.

Working hours, 60 per week, (the only night work being in a section of card room).

No bin-mixing system and no "Universal" pirn department.

Average cost per pound in weaving production is 31.80 pies.

BOMBAY MILL.

This mill makes cloth mainly for export, such as drills and sheetings, with average count 13's. Marked for shipment to Egypt, Alexandria, Port Said, Basra, Karachi and Rangoon.

The mill has got 25,000 spindles and 800 looms, with 32 ins. to 50 ins. reed space.

Working hours, 60 per week.

Maintains special staff for bin mixing arrangement. "Universal" used for weft.

Average cost per pound in weaving production is 27.32 pies.

SUMMARY

Departments			Hands		Production		Cost per lb. (pies)	
America		Bombay	America	Bombay	America	Bombay	America	Bombay
Cotton opening ..	..	Mixing and blow room	7	18	82,444	82,800	.50	.39
Carding ..	..	Carding ..	44	100	79,185	76,800	4.14	2.05
Spinning ring ..	..	Spinning ring ..	77	186	78,333	75,000	6.29	3.84
Grey winding ..	..	Grey winding ..	16	59	42,537	42,000	2.22	2.00
Warping ..	..	Warping ..	11	21	43,853	42,000	1.45	.84
Sizing and beaming ..	..	Sizing and beaming ..	11	39	54,371	54,000	1.88	1.63
Weaving and miscellaneous	..	Weaving and miscellaneous	95	307	82,564	79,200	8.73	10.52
Universal winding ..	..	Universal winding ..	—	140	—	33,000	—	3.92
Cloth room ..	..	Warehouse ..	21	40	73,730	79,200	2.13	.75
General ..	..	General ..	47	60	82,564	79,200	4.46	1.38
			<u>329</u>	<u>970</u>			<u>31.80</u>	<u>27.32</u>

Difference in cost per lb.	..	..	..	..	..	..	4.48
Weekly gain in 79,200 lbs.	..	..	..	..	..	..	Rs.1,848/-
Monthly gain	..	..	..	..	..	..	Rs.7,392/-

OPENING DEPARTMENT, BLOW ROOM									
		Hands		Hours		America			Bombay
America		Bombay	America	Bombay	America	Bombay	R ^s .	a.	p.
Cotton Opener ..	Bale breaker ..	1	1	52	60	25	0	0	7 10 0
Waste man ..	Waste cooly ..	1	1	55	60	26	8	0	7 10 0
Fixer ..	Head jobber ..	1	1	68	60	42	0	6	27 10 0
Pickers hands ..	Breakers and finishers	3	4	189	240	106	12	0	35 11 0
Sweeper ..	—	1	—	80	—	16	10	0	—
—	Hopper feeders ..	—	2	—	120	—			15 4 9
—	Assistant jobber ..	—	1	—	60	—			14 14 0
		<u>7</u>	<u>10</u>			<u>216</u>	<u>14</u>	<u>0</u>	<u>108 11 9</u>
	Mixing Dept.								
—	Mukadam ..	—	1	—	60	—			10 10 0
—	Coolies ..	—	6	—	360	—			45 14 3
—	Tare pickers ..	—	1	—	58½	—			4 4 0
			<u>8</u>						<u>60 12 3</u>
America, total wages ..		R ^s .216 14 0		Production, 82,444 ; cost per lb., pies 0·50					
Bombay, total wages ..		R ^s .108 11 9		Blow room.					
Bombay, total wages ..		R ^s . 60 12 3		Mixing.					
		<u>R^s.169 8 0</u>		Production, 82,800 ; cost per lb., pies 0·39					

				Hands		Hours		America			Bombay		
America		Bombay		America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.
Overseers	Head jobbers	1	2	60	120	137	8	0	57	6	0
Second hand	Assistant jobbers	1	2	60	120	68	12	0	34	0	0
Section hand	Assistant jobbers	2	2	114	120	86	10	0	34	0	0
Grinders	Front jobbers	2	2	120	120	115	8	0	22	1	6
Card strippers	Back jobbers	4	4	238	240	154	10	0	44	3	0
Card hands	Can minders	5	7	295	420	186	8	0	41	10	3
		Lap carriers	—	3	—	180	—			20	6	3
Drawers	Drawers	5	18	284	1,080	154	0	0	166	4	9
Slubbers	Slubbers	4	9	253	540	241	4	0	75	13	9
		Inters.	—	16	—	960	—			133	4	0
Roving frame	13	—	753	—	359	8	0	—		
Roving men	Begaries	1	4	72	240	39	4	0	27	3	0
Oilers	Oilers	1	1	60	60	35	0	0	6	12	9
Sweepers	Sweepers	2	2	118	120	32	0	0	6	12	9
General help	Spare tenters	3	3	176	180	106	6	0	19	2	0
		Doffer boys	—	25	—	1,500	—			132	13	0
				44	100			1,714	14	0	821	13	0
America, total production, 79,185 ; cost per lb., pies										4·14			
Bombay, total production, 76,800 ; cost per lb., pies										2·05			

				Hands		Hours		America			Bombay			
America		Bombay		America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.	
Overseer	Head jobber	1	1	60	60	137	8	0	31	14	0	
Second hand	Assistant jobber	1	1	60	60	68	12	0	21	4	0	
Section hands	Doffer jobbers	4	6	244	360	206	4	0	78	8	0	
Oilers	Oilers	3	3	152	180	86	10	0	29	5	0	
Banders	—	..	2	—	123	—	71	0	0	—			
Roving men	Doffer carrier	4	6	242	360	117	4	0	38	0	0	
Head doffers	—	..	1	—	60	—	41	4	0	—			
Warp doffers	Warp doffers	5	27	300	1,620	187	0	0	143	7	0	
Filling doffers	Weft doffers	15	25	899	1,500	477	10	0	134	2	0	
Warp spinners	Warp siders	20	32	1,206	1,920	549	12	0	297	11	0	
Filling spinners	Weft siders	13	27	750	1,620	420	6	0	258	9	0	
Sweepers	Bonda picker	4	1	233	58½	72	10	0	3	6	3	
General help	Tarwallas	4	29	245	1,740	130	12	0	208	13	3	
				<u>77</u>	<u>158</u>			<u>2,566</u>	<u>12</u>	<u>0</u>	<u>1,244</u>	<u>15</u>	<u>6</u>	
Mule Department												Rs.	a.	p.
—		Head jobber	—	1	—	60	—			25	8	0	
—		Assistant jobber	—	1	—	60	—			14	14	0	
—		Spinners	—	4	—	240	—			49	5	0	
—		Engine piecers	—	8	—	480	—			68	0	0	
—		Side piecers	—	8	—	480	—			64	9	6	
—		Creelers	—	4	—	240	—			22	1	6	
—		Bobbin and cop carriers	—	2	—	120	—			11	14	3	
				<u>28</u>							<u>256</u>	<u>4</u>	<u>3</u>	
America, total wages ..				Rs.2,566	12	0	Production, 78,333 ; cost per lb., 6·29							
Bombay, total wages ..				Rs.1,244	15	6	Spinning. } Production, 75,000 ; cost per lb., 3·84 Mule. }							
Bombay, total wages ..				Rs.256	4	3								
				<u>Rs.1,501</u>	<u>3</u>	<u>9</u>								

COSTINGS OF YARN AND CLOTH

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GREY WINDING

			Hands		Hours		America			Bombay		
America		Bombay	America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.
		Naikeen	—	1	—	54	—			10	10	0
Section men ..		Jobber and fitter ..	1	1	67	60	55	4	0	17	0	0
Tangle yarn hand ..		Spindle binder and oiler	1	2	54	120	29	12	0	13	9	6
		Number marker ..	—	1	—	60	—			5	1	6
Yarn men		Coolies	1	3	56	180	30	12	0	17	13	6
Sweepers		Sweepers	1	1	61	54	16	12	0	3	6	3
Spoolers		Windors	12	50	685	2,700	360	8	0	371	14	0
			16	59			493	0	0	439	6	9
		America, total wages ..	Rs.493	0	0	Production, 42,537 ; cost per lb.,	2·22					
		Bombay, total wages ..	Rs.439	6	9	Production, 42,000 ; cost per lb.,	2·00					

WARPING

WARPING				Hands		Hours		America			Bombay		
America		Bombay		America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.
Warpers ..	..	Warpers ..	..	2	11	110	660	69	8	0	118	2	0
Creelers ..	..	Creelers ..	..	4	7	220	420	121	2	0	35	11	3
Beam men ..	..	Beam carriers ..	..	4	2	230	120	113	13	0	15	4	9
General help ..	..	—————	..	1	—	60	—	27	4	0	—	—	—
—	..	Jobber ..	..	—	1	—	60	—	—	—	14	14	0
				—	—								
				11	21			331	7	0	184	0	0
				—	—			—	—	—	—	—	—
America, total wages ..				Rs.331	7 0	Production, 43,852 ; cost per lb., 1.45							
Bombay, total wages ..				Rs.184	0 0	Production, 42,000 ; cost per lb., 0.84							

UNIVERSAL WINDING

		Hands		Hours		America			Bombay		
America	Bombay	America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.
—	Winders ..	..	—	—	140	—	—	—	674	11	0
	Bombay, total wages ..	Rs.674	11 0	Production, 33,000 ; cost per lb., 3.92							

SLASHING AND DRAWING

		Hands		Hours		America			Bombay		
America	Bombay	America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.
Slashers tender ..	Front size	2	6	171	360	161	0	0	128	8	0
Slashers' helpers ..	Back size	1	6	83	360	57	0	0	63	12	0
Tying-in men ..	Tying machine men	2	1	128	60	110	7	0	19	2	0
Tying-in helpers ..	Asst. machine men	1	2	55	120	30	4	0	29	12	0
Drawing-in hands ..	Drawers and reachers	5	12	300	360	176	5	0	90	5	6
—	Jobbers	—	2	—	120	—	—	—	42	8	0
—	Fitter	—	1	—	60	—	—	—	17	0	0
—	Heald and Reed	—	—	—	—	—	—	—	—	—	—
—	repairer	—	2	—	120	—	—	—	15	9	6
—	Beam carriers	—	4	—	240	—	—	—	32	4	9
—	Size mixers	—	3	—	180	—	—	—	22	1	6
						535	0	0	459	15	3
America, total wages ..		Rs.535	0 0	Production, 54,371 ; cost per lb., 1·88							
Bombay, total wages ..		Rs.459	15 3	Production, 54,000 ; cost per lb., 1·63							

WEAVING. WEAVING AND MISCELLANEOUS.

	America	Bombay	Hands		Hours		America			Bombay		
			America	Bombay	America	Bombay	R.	a.	p.	R.	a.	p.
Overseer ..	..	Head jobber ..	1	2	60	120	137	8	0	109	6	0
Second hands ..	..	Line jobber ..	2	13	82	780	99	0	0	495	4	0
Loom fixers ..	..	Asst. jobbers ..	10	7	589	420	578	7	0	104	2	0
Weavers ..	..	Weavers ..	28	265	1,698	15,900	1,312	7	0	3,500	0	0
Smash hands ..	..	— ..	4	—	251	—	141	5	0	—	—	—
Warp man ..	..	Weft coolies ..	4	10	245	600	177	1	0	63	12	0
Battery hands ..	..	— ..	18	—	1,111	—	581	9	0	—	—	—
Filling men ..	..	— ..	2	—	120	—	54	7	0	—	—	—
Quill man ..	..	— ..	10	—	585	—	206	4	0	—	—	—
Loom cleaners ..	..	— ..	4	—	230	—	104	10	0	—	—	—
Oilers ..	..	— ..	1	—	60	—	33	0	0	—	—	—
Sweepers ..	..	Sweepers ..	3	3	180	180	49	8	0	16	9	3
General help ..	..	Beam carriers ..	8	5	480	300	280	8	0	39	1	6
— ..	..	Mochi ..	—	2	—	120	—	—	—	15	4	9
			<hr/>	<hr/>			<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
			95	307			3,755	10	0	4,343	7	6
America, total wages ..	Rs.3,755	10	0	Production, 82,564 ; cost per lb.,	8-73							
Bombay, total wages ..	Rs.4,343	7	6	Production, 79,200 ; cost per lb.,	10-52							

CLOTH ROOM DEPT. WAREHOUSE.

		Hands		Hours		America			Bombay		
America	Bombay	America	Bombay	America	Bombay	Rs.	a.	d.	Rs.	a.	p.
Overseer ..	Jobber ..	1	1	60	60	96	4	0	19	2	0
Cloth checkers ..	Measureman Pos.										
	Counter ..	1	2	65	120	58	2	0	15	11	6
Calender hand ..	Calenderer ..	1	2	67	120	44	4	0	15	4	9
Head inspector ..	Head cut-looker ..	1	1	62	60	51	2	0	12	12	0
Inspectors ..	Asst. cut-lookers ..	8	2	502	120	220	15	0	22	8	3
Balers ..	Balers ..	1	3	60	180	38	12	0	40	8	0
Sewers ..	Sewing man ..	1	2	60	120	37	15	0	12	12	0
Branders ..	—	1	—	65	—	41	13	0	—	—	—
Stitchers ..	Stitchers ..	1	2	60	120	28	0	0	11	0	9
Folders ..	Folders ..	2	12	134	720	86	10	0	81	9	6
Sweepers ..	Sweepers ..	1	1	60	54	28	14	0	3	6	3
General help ..	—	2	—	134	—	86	10	0	—	—	—
—	Stampers ..	—	2	—	120	—	—	—	16	2	6
—	Number markers ..	—	1	—	60	—	—	—	6	6	0
—	Bundle carriers ..	—	4	—	240	—	—	—	25	8	0
—	Scale boy ..	—	1	—	60	—	—	—	5	8	3
—	Damping ..	—	2	—	120	—	—	—	12	12	0
—	Coolies ..	—	2	—	120	—	—	—	11	14	6
		21	40			819	5	0	312	14	3

America, total wages .. Rs.819 5 0 Production, 73,730 ; cost per lb., 2.13
Bombay, total wages .. Rs.312 14 3 Production, 79,200 ; cost per lb., 0.75

GENERAL.

		Hands		Hours		America			Bombay		
America	Bombay	America	Bombay	America	Bombay	Rs.	a.	p.	Rs.	a.	p.
Repair department..	Line levelling dept...	9	18	564	1,080	538	4	0	210	14	0
Watchman ..	Sepoys ..	2	12	169	144	129	0	0	90	1	6
Fireman ..	Bombawallas ..	1	2	85	24	46	12	0	61	3	3
Warehouse ..	—	2	—	124	—	90	3	0	—	—	—
Yard ..	Compound coolies and gardeners ..	15	5	827	300	517	15	0	30	9	6
Supply room ..	Store coolies ..	2	4	103	216	69	0	0	26	12	3
Shipping ..	Nawganees ..	3	7	165	420	79	3	0	55	4	0
Scrubbing ..	—	5	—	280	—	151	14	0	—	—	—
Sale waste ..	—	2	—	124	—	47	4	0	—	—	—
Miscellaneous ..	Miscellaneous ..	6	12	379	720	251	15	0	97	5	3
		47	60			1,921	6	0	572	1	9

America, total wages .. Rs.1,921 6 0 Production, 82,564 ; cost per lb., 4.46
Bombay, total wages .. Rs.572 1 9 Production, 79,200 ; cost per lb., 1.38

The writer obtained from the same source the following statement, in which a Bombay mill is compared with an Oldham mill ; it will be seen that the calculation shows a difference of 6.06 pies in labour cost in the spinning in favour of Bombay.

COMPARISON BETWEEN AN UP-TO-DATE BOMBAY MILL AND AN OLDHAM MILL OF THE SAME SIZE.

Only 13's warp and 17's weft are spun.

The Oldham figures have been calculated by the inside manager of the Bombay mill, who was formerly employed in Oldham mills, and are understood to apply to an Oldham mill of the same type as the Bombay mill.

The figures of the Bombay mill are actual ones, taken from the records of the mill.

COSTINGS OF YARN AND CLOTH

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SUMMARY.

Department	Hands		Production		Wages			Labour, cost per lb.	
	Oldham	Bombay	Oldham 208 hours lbs.	Bombay 260 hours lbs.	Oldham 208 hours Rs. a. p.	Bombay 260 hours Rs. a. p.		Oldham pies	Bombay pies
Mixing and blow room	5	18	264,960	331,200	714 0 0	678 0 0		0·51	0·39
Carding	68	100	245,760	307,200	7,290 8 0	3,287 4 0		5·69	2·05
Spinning	106	186	240,000	300,000	7,676 0 0	6,004 15 0		6·14	3·84
	<u>179</u>	<u>304</u>						<u>12·34</u>	<u>6·28</u>

Difference in labour cost per lb., 6·06 pies.

Monthly gain on 300,000 lbs., Rs.9,468 12 0.

MIXING

Oldham Mill England	Bombay Mill India	Hands		Hours		Wages		
		Oldham	Bombay	Oldham	Bombay	Oldham Rs. a. p.	Bombay Rs. a. p.	
Mixing men ..	Mixing coolies ..	2	6	208	260	214 0 0	193 9 9	
— ..	Mukadum ..	—	1	—	260	—	42 8 0	
— ..	Tare pickers ..	—	1	—	260	—	17 0 0	
		<u>2</u>	<u>8</u>			<u>214 0 0</u>	<u>243 1 0</u>	

BLOW ROOM.

Oldham Mill England	Bombay Mill India	Hands		Hours		Wages		
		Oldham	Bombay	Oldham	Bombay	Oldham Rs. a. p.	Bombay Rs. a. p.	
Exhaust men ..	Breakers ..	1	1	208	260	162 0 0	35 11 0	
Finisher men ..	Finishers ..	2	3	208	260	338 0 0	107 1 0	
—	Bale breaker ..	—	1	—	260	—	30 8 0	
—	Waste cooly ..	—	1	—	260	—	30 8 0	
—	Head jobber ..	—	1	—	260	—	110 8 0	
—	Hopper feeder ..	—	2	—	260	—	61 3 0	
—	Asst. jobber ..	—	1	—	260	—	59 8 0	
		<u>3</u>	<u>10</u>			<u>500 0 0</u>	<u>434 15 0</u>	

	Mixing	Blow Room	Total Wages	Production	Labour Cost per lb.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	lbs.	pies
Oldham mill	214 0 0	500 0 0	714 0 0	264,960	0·51
Bombay mill	243 1 0	434 15 0	678 0 0	331,200	0·39

CARDING.

Oldham Mill England	Bombay Mill India	Hands		Hours		Wages		
		Oldham	Bombay	Oldham	Bombay	Oldham Rs. a. p.	Bombay Rs. a. p.	
Stripper and grinder	Back and front jobber	6	6	208	260	1,075 0 0	265 0 0	
Can minders ..	Can minders ..	4	7	208	260	248 0 0	166 9 0	
Drawers	Drawers ..	9	18	208	260	1,174 8 0	665 3 0	
Slubbers	Slubbers ..	9	9	208	260	1,043 8 0	303 7 0	
Inters.	Inters. ..	8	16	208	260	912 0 0	533 0 0	
Back tenters (inter.)	Spare tenters ..	8	3	208	260	428 0 0	76 8 0	
Rovers	— ..	15	—	208	—	1,535 0 0	—	
Back tenters ..	— ..	8	—	208	—	767 8 0	—	
Bobbin carrier ..	Beggaries ..	1	4	208	260	107 0 0	108 12 0	
—	Head jobber ..	—	2	—	260	—	229 8 0	
—	Asst. jobber ..	—	2	—	260	—	136 0 0	
—	Asst. jobber ..	—	2	—	260	—	136 0 0	
—	Lap carriers ..	—	3	—	260	—	81 9 0	
—	Oilers	—	1	—	260	—	27 3 0	
—	Sweepers	—	2	—	260	—	27 3 0	
—	Doffer boys ..	—	25	—	260	—	531 4 0	
		<u>68</u>	<u>100</u>			<u>7,290 8 0</u>	<u>3,287 4 0</u>	

Oldham, total wages .. Rs.7,290 8 0 Production (lbs), 245,760 ; labour cost per lb. (pies), 5·69
Bombay, total wages .. Rs.3,287 4 0 Production (lbs.), 307,200 ; labour cost per lb. (pies), 2·05

SPINNING.

Oldham Mill England		Bombay Mill India		Hands		Hours		Wages					
				Oldham	Bombay	Oldham	Bombay	Oldham			Bombay		
								Rs.	a.	p.	Rs.	a.	p.
Warp siders	..	Warp siders	..	18	32	208	260	1,627	0	0	1,190	12	0
Weft siders	..	Weft siders	..	18	27	208	260	1,709	0	0	1,034	4	0
Doffers and gaiters	..	Warp and weft doffers	..	55	52	208	260	2,814	0	0	1,110	0	0
Oilers and baders	..	Oilers	..	2	3	208	260	179	0	0	117	4	0
Weft carriers	..	Doffer carriers	..	1	6	208	260	107	0	0	152	0	0
—	..	Head jobber	..	—	1	—	260	—			127	8	0
—	..	Asst. jobber	..	—	1	—	260	—			85	0	0
—	..	Doffer jobbers	..	—	6	—	260	—			314	0	0
—	..	Bonda picker	..	—	1	—	260	—			13	9	0
—	..	Tarwalas	..	—	29	—	260	—			835	5	0
				94	158			6,436	0	0	4,979	14	0

MULE DEPARTMENT.

Oldham Mill England			Bombay Mill India			Hands		Hours		Wages						
						Oldham	Bombay	Oldham	Bombay	Oldham			Bombay			
										Rs.	a.	p.	Rs.	a.	p.	
Minders	..	..	Spinners	..	..	4	4	208	260	672	0	0	197	4	0
Piecers	..	..	Engine piecers	..	..	8	8	208	260	568	0	0	272	0	0
----			Siders	..	..	—	8	—	208	—			258	6	0
----			Creelers	..	..	—	4	—	260	—			88	6	0
----			Head jobber	..	..	—	1	—	260	—			102	0	0
----			Asst. jobber	..	..	—	1	—	260	—			59	8	0
----			Bobbin and cop carriers			—	2	—	260	—			47	9	0	
						12	28				1,240	0	0	1,025	1	0

				Ring	Mule	Total Wages	Production lbs.	Labour cost per lb. pies
Oldham ..	..	..	Rs.	6,436 0 0	1,240 0 0	7,676 0 0	240,000	6.14
Bombay ..	..	..	„	4,979 14 0	1,025 1 0	6,004 15 0	300,000	3.84

One Ahmedabad mill was able to supply the following detailed set of figures of costings :—

COSTING FOR 24½'s WARP YARN IN ANNAS PER LB. OF YARN.

Spinning Department.

Spinning Wages	...	...	...	...	...	87
Card and frame wages	...	...	...	...	...	36
Engine wages (and compound)	...	...	...	...	...	25
Coal	...	...	...	...	...	36
Stores	...	...	...	...	...	37
Depreciation	...	...	...	...	...	35
Interest charges	...	...	...	...	...	25
Commission	...	...	...	...	...	04
Ground rents	...	...	...	...	...	07
Water rates	...	...	...	...	...	05
Miscellaneous	...	...	...	...	...	07
						<hr/> 3·04

Weaving Department.

Stores (including yarn purchased)	...	...	2.05
Wages	...	...	1.51
Coal	...	...	.25
Depreciation	...	...	.28
Interest charges	...	...	.20
Brokerage	...	...	.17
Agency commission	...	...	.52
			<hr/> 4.98

Spinning and weaving combined work out to 8.02 annas per lb. in Ahmedabad.

One of the statements of the Bombay Mill Owners' Association shows 8.14 annas for the same cloth.

There must always be a great divergence in the costings from one mill to another, particularly when we have to deal with a number of old mills, which have not been rejuvenated, and with another set of mills of modern date with ring spindles driven by tape, by individual motors with varying speed. One Bombay mill quoted the production of 20's warp as 6.3 oz. per spindle, whilst the average production of one modern Ahmedabad mill, according to books produced to me, showed 8.8 oz. actual production, 20.3's warp, 17.7 turns per inch, 70 lbs. lea test, made entirely from Surat cotton. The manager assured me that with an improved mixing he gets as much as 9 oz. per spindle in 20's warp.

As no uniform system of calculating costs in the cotton industry has been established, there will always be differences of opinion as to the real cost of production. Few cotton spinners and manufacturers can swear to the exactness of their cost calculations.





Exports and Imports of Cotton Goods

Exports. A number of mills in Bombay were built specially for the yarn export trade to China; for a period of years this was a very remunerative business, but when the Japanese started spinning they began with coarse counts, and found that owing to the nearness of Japan to the Chinese market, and owing to up-to-date machinery, they were able to push the Bombay mills entirely out of China, first as regards yarn and later as regards cloth. A further evolution occurred when China started to erect her own mills. This stopped the Japanese from sending the coarse counts to China, but in order to maintain this Chinese business they erected a number of mills in that country, and to-day a third of the Chinese cotton spinning and manufacturing industry is in the hands of the Japanese. The Japanese mills in China began to export yarn to India; it was yarn made principally from Indian cotton. This was achieved by the working of double shift, and, of course, the mills were very modern, being erected within the last ten years.

The imports into India of coarse yarns were finally stopped with the introduction of a tariff on all yarns of 5 per cent. *ad valorem*, with a minimum of $1\frac{1}{2}$ annas per pound. The Japanese were, in consequence of this $1\frac{1}{2}$ annas per pound rate, forced to go on to finer counts, and to-day Japan's principal exports of cotton yarn to India are 40/2 and 36/2.

When the Indian mills lost their Chinese trade they concentrated upon their own home market, which so far they had despised as it was not lucrative in consequence of competition from Europe. It was soon found that Lancashire could not compete in low counts in India owing to heavy freights.

Up to 1910, India's cotton-mill industry was short of looms, but this defect was remedied partly by the purchase of second-hand looms even. As many Indians have emigrated to places bordering the Persian Gulf, and to the newly developed countries of South Africa, Uganda, etc., it was only natural that there should spring up a demand for Indian goods in these markets and those situated between them and Bombay. In the city of Bombay there are established a number of merchants who do an import and export business to these countries. They sell in India the produce from these newly opened countries and send to their kith and kin the products of the Indian mills. The tables which we publish show a slowly increasing business. Japan, which has made goods much on the lines of India, and had established its own houses in Bombay, has managed to take from India a good slice of this business to the Persian Gulf, Egypt and South Africa, owing to lower prices; but we still find India competing successfully in certain goods, mostly in coarse blankets, where they have the advantage of not having to pay sea freight on the raw material, which, of course, is considerable on heavy goods. It may be advisable for the European industry to pay more attention to the Bombay houses exporting to these markets. The business is evidently a steady and satisfactory one. Profits have to be small, but the financial risks are stated to be inconsiderable. Undoubtedly the millions of Indians scattered over Africa, are worth catering for.

The Bombay Mill Owners' Association, assisted by the Indian Government, sent a commission to these markets, but owing to the Bombay strikes, which have intervened since, they were unable to enjoy to the full the fruits of this investigation.

Blankets made of waste of the very lowest kind are one of the principal articles exported. It is, however, natural that the Indian mills, after obtaining protective duties against Lancashire and Japan, concentrated more on the home market, and as recently this protection has been still further increased it may be that an opening is being made for the rest of the world in the markets to which India has been in the habit of exporting. As India squeezes her competitors out of her home market they may be successful in acquiring some of India's export trade.

EXPORTS OF INDIAN COTTON YARNS (ALL DESCRIPTIONS) FROM BRITISH INDIA IN 1929, 1928 and 1927

									Total for 12 months ending December 31		
									1929	1928	1927
									lbs.	lbs.	lbs.
Grey Yarn Single	Coloured Yarn Single	White Yarn (Bleached)	Grey Yarns Doubles	Coloured Yarn Doubles	Un-specified Descriptions	Sewing Thread					
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.					
European countries ..	..	..	..	..	..	..	..	..	1,888,692	1,791,969	2,466,453
China (including Hong Kong) ..	..	..	..	..	..	..	..	..	1,355,798	1,582,186	1,271,690
Egypt and North Africa *	..	..	..	..	..	..	..	..	5,162,931	3,632,779	5,984,600
Red Sea Ports † ..	..	..	..	..	..	..	..	..	6,368,189	4,098,557	4,271,701
East Africa ‡ ..	..	..	..	..	..	..	..	..	444,836	268,319	256,561
Levant and Black Sea Ports § ..	..	..	..	..	..	..	..	..	3,071,395	2,803,346	4,437,293
Ceylon and Straits ¶ ..	..	..	..	..	..	..	..	..	3,601,621	2,638,609	2,906,862
Persian Gulf ** ..	..	..	..	..	..	..	..	..	6,830,118	4,789,010	5,763,264
South Africa *** ..	..	..	..	..	..	..	..	..	22,485	57,927	251,053
Other countries †† ..	..	..	..	..	..	..	..	..	97,066	40,940	51,240
Total for year ending Dec. 31, 1929 ..	21,906,244	159,500	480,770	5,961,016	800	104,634	230,077	28,843,041	—	—	—
" " Dec. 31, 1928 ..	16,541,014	185,670	345,927	4,265,474	31,880	86,123	247,554	—	21,703,642	—	—
" " Dec. 31, 1927 ..	19,410,762	242,635	824,123	6,499,324	17,240	34,593	251,754	—	—	27,660,627	—

EXPORTS OF INDIAN MANUFACTURED COTTON PIECE GOODS ALL DESCRIPTIONS, FROM BRITISH INDIA IN 1929, 1928 and 1927

									Total for 12 months ending December 31		
									1929	1928	1927
									yds.	yds.	yds.
Grey (Un-bleached)	Printed, Coloured or Dyed	White (Bleached)	Canvas								
yds.	yds.	yds.	yds.								
European countries	452,800	407,038	663,620
China (including Hong Kong)	161,779	186,568	42,698
Egypt and North Africa *	680,788	551,760	3,762,440
Red Sea Ports †	10,342,978	9,668,757	10,557,006
East Africa ‡	35,125,304	31,884,912	37,838,036
Levant and Black Sea Ports §	380,940	488,443	2,140,520
Ceylon and Straits ¶	46,129,624	45,663,944	49,641,132
Persian Gulf **	48,813,133	52,720,148	77,762,079
South Africa ***	3,597,682	2,306,637	4,609,869
Other countries ††	241,730	109,498	69,949
Total for year ending December 31, 1929	17,508,035	1,436,648	126,968,601	13,474	145,926,758	—	—	—
" " Dec. 31, 1928	13,899,518	1,195,673	133,882,125	10,389	—	148,987,705	—	—
" " Dec. 31, 1927	20,556,522	1,687,593	164,826,378	16,856	—	—	187,087,349	—

* Egypt and North Africa include Tripoli and Tunis.

† Red Sea Ports include Anglo-Egyptian Sudan, Abyssinia, British Somaliland, French Somaliland, Somaliland Protectorate, Aden and Dependencies.

‡ East Africa includes Italian East Africa (Somaliland and Britia), Kenya, Uganda, Tanganyika Territory, Portuguese East Africa, Zanzibar and Pemba and Seychelles.

§ Levant and Black Sea include Palestine, Syria, Smyrna and Asiatic Turkey.

¶ Ceylon, Straits Settlements and beyond include Labuan, Java, Siam, Indo-China, Federated Malay States, Maldives Islands, Fiji Islands, Sumatra, Dutch Borneo, Celebes, Philippines and Formosa.

** Persian Gulf includes Iraq, Mesopotamia, Muscat Territory and Trucial Oman, other Native States in Arabia, Persia and Bahrein Islands.

*** South Africa includes Natal (Transvaal), Cape of Good Hope, Mauritius and Madagascar.

Imports. The cotton goods exports of India are, however, insignificant in relation to her imports.

The following tables have been compiled by the Bombay Mill Owners' Association from the monthly figures of the Department of Commercial Intelligence and Statistics, Calcutta:—

TABLE I.—IMPORTS OF SINGLE GREY COTTON YARNS INTO BRITISH INDIA IN 1929, 1928, and 1927

	Total for 12 months ending December 31									
	1 to 10 lbs.	11 to 20 lbs.	21 to 30 lbs.	31 to 40 lbs.	41 to 50 lbs.	51 to 60 lbs.	Above 60 lbs.	1929 lbs.	1928 lbs.	1927 lbs.
United Kingdom	—	—	—	—	—	—	—	11,960,778	10,971,369	10,460,273
Japan	—	—	—	—	—	—	—	2,418,013	2,215,453	12,299,319
China (including Hong Kong) ..	—	—	—	—	—	—	—	10,330,539	9,062,090	10,746,355
United States of America ..	—	—	—	—	—	—	—	2,013	11,135	976
Italy	—	—	—	—	—	—	—	214,598	41,300	17,287
Belgium	—	—	—	—	—	—	—	—	126	—
Netherlands	—	—	—	—	—	—	—	—	—	—
Switzerland	—	—	—	—	—	—	—	—	—	—
Germany	—	—	—	—	—	—	—	2,967	—	100
Austria	—	—	—	—	—	—	—	—	2,400	—
Other countries	—	—	—	—	—	—	—	19,428	374,038	150,884
Total for year ending Dec. 31, 1929	103,480	841,542	323,238	15,995,584	937,289	4,637,777	2,109,426	24,948,336	—	—
" " Dec. 31, 1928	16,700	777,917	484,377	13,825,866	1,117,732	4,356,630	2,098,689	—	22,677,911	—
" " Dec. 31, 1927	354,146	1,619,751	487,691	25,048,855	1,324,227	3,018,938	1,821,586	—	—	33,765,194

TABLE 2.—IMPORTS OF SINGLE COLOURED COTTON YARNS INTO BRITISH INDIA IN 1929, 1928 and 1927

Total for 12 months ending December 31								
	1 to 20 lbs.	21 to 30 lbs.	31 to 40 lbs.	41 to 50 lbs.	Above 50 lbs.	1929 lbs.	1928 lbs.	1927 lbs.
United Kingdom	2,793,993	2,316,530	4,006,263
Japan	80,400	54,000	27,500
China (including Hong Kong)	56,400	—	—
United States of America	—	1,120	—
Italy	384,755	214,275	392,631
Belgium	—	—	21,425
Netherlands	28,344	131,632	522,815
Switzerland	606,660	283,181	439,786
Germany	105,156	32,408	80,215
Austria	35,445	38,800	800
Other countries	2,251	17,800	135
Total for year ending December 31, 1929	..	201,461	227,323	3,126,025	92,350	4,093,404	—	—
" " December 31, 1928	..	265,905	325,737	2,175,942	51,788	—	3,089,746	—
" " December 31, 1927	..	445,291	334,074	4,166,664	87,025	—	—	5,491,570

TABLE 3.—TOTAL IMPORTS OF COTTON YARN INTO BRITISH INDIA IN 1929, 1928 and 1927. (All descriptions.)

	Grey Singles lbs.	Coloured Singles lbs.	White Bleached lbs.	Grey Folded lbs.	Coloured Folded lbs.	Mercer- ized lbs.	Arti- ficial Silk lbs.	Un- specified Descrip- tion lbs.	Rope lbs.	Sewing Thread lbs.	Total for 12 months ending December 31		
											1929 lbs.	1928 lbs.	1927 lbs.
United Kingdom .. ..	..	..	..	..	..	..	..	..	..	..	26,483,035	24,924,241	25,707,193
Japan .. ..	..	..	..	..	..	..	..	..	..	..	10,958,919	6,716,789	22,561,463
China (including Hong Kong) ..	..	..	..	..	..	..	..	..	..	..	11,149,887	9,842,091	11,577,642
United States of America ..	..	..	..	..	..	..	..	..	..	..	20,930	32,406	62,318
Italy .. ..	..	..	..	..	..	..	..	..	..	..	5,671,299	3,300,753	4,996,760
Belgium .. ..	..	..	..	..	..	..	..	..	..	..	137,831	247,384	126,802
Netherlands .. ..	..	..	..	..	..	..	..	..	..	..	609,743	981,980	1,128,420
Switzerland .. ..	..	..	..	..	..	..	..	..	..	..	1,073,317	600,366	841,379
Germany .. ..	..	..	..	..	..	..	..	..	..	..	615,609	473,244	358,697
Austria .. ..	..	..	..	..	..	..	..	..	..	..	244,632	192,625	254,709
Other countries .. ..	..	..	..	..	..	..	..	..	..	..	924,801	1,048,172	732,876
Total for year ending December 31, 1929	24,948,336	4,093,404	5,569,899	5,599,565	432,715	5,873,716	7,992,209	29,830	990,904	2,360,425	57,891,003	—	—
" " December 31, 1928	22,677,911	3,089,746	4,554,649	3,815,025	497,672	3,895,627	6,926,959	26,996	790,356	2,085,110	—	48,360,051	—
" " December 31, 1927	33,675,194	5,491,570	4,984,778	6,656,102	579,185	5,180,827	8,478,053	75,641	838,615	2,387,294	—	—	68,347,259

		Jaconets including Madapolams and Mulls and Canbrics					Longcloth and Shirtings yds.	Printers yds.	Sheetings yds.	T-Cloth and Domestic yds.	Unspecified Descriptions yds.	Total for 12 months ending December 31		
		Chadars yds.	Drillies and Scarves yds.	Flannels and Flannellettes yds.	Drills and Jeans yds.	Flannels and Flannellettes yds.						1929 yds.	1928 yds.	1927 yds.
United Kingdom	..	..	..	..	..	..	..	..	..	..	..	89,733,030	124,217,456	166,240,810
Japan ..	..	..	..	..	..	..	..	..	..	..	..	324,512,572	173,885,295	184,130,429
China (including Hong Kong)	..	..	..	..	..	..	..	..	..	..	..	17,149,398	5,325,087	6,793,825
United States of America	..	..	..	..	..	..	..	..	..	..	..	1,065,403	1,516,017	3,064,938
Italy ..	..	..	..	..	..	..	..	..	..	..	..	322,040	1,080	49,129
Belgium	..	..	..	..	..	..	..	..	..	..	..	1,440	774	100
Netherlands	..	..	..	..	..	..	..	..	..	..	..	1,385	527	102
Switzerland	..	..	..	..	..	..	..	..	..	..	..	—	—	4,028
Germany	..	..	..	..	..	..	..	..	..	..	..	—	5,860	—
Austria..	..	..	..	..	..	..	..	..	..	..	..	—	—	—
Other countries	..	..	..	..	..	..	..	..	..	..	..	466,032	210,089	284,947
Total for year ending Dec. 31, 1929		64,184	161,043	13,178,890	2,064	58,516,842	344,600,974	22,400	14,234,212	174,951	2,295,740	433,251,300	—	—
" " Dec. 31, 1928		73,980	364,181	10,125,083	12,000	77,030,956	207,841,105	820	8,652,053	95,442	966,565	—	305,162,185	—
" " Dec. 31, 1927		31,797	1,502,482	14,799,712	6,966	76,775,299	242,408,288	145	24,000,140	575,553	467,924	—	—	360,568,306

TABLE 5.—IMPORTS OF BORDERED GREY COTTON PIECE GOODS INTO BRITISH INDIA IN 1929, 1928 and 1927

		Dhuties, Series and Scarves				Jaconets including Madagascars		Total for 12 months ending December 31		
		Chadars yds.	Drills and Jeans yds.	Flannels and Flannels yds.	Flannels and Flannels yds.	Longcloth and Shirtings yds.	Unspecified Descriptions yds.	1929 yds.	1928 yds.	1927 yds.
United Kingdom	..	—	—	—	—	—	—	442,302,835	422,672,625	475,017,724
Japan ..	..	—	—	—	—	—	—	49,342,092	32,088,972	33,237,765
China (including Hong Kong)	..	—	—	—	—	—	—	—	—	—
United States of America	..	—	—	—	—	—	—	—	—	—
Italy ..	..	—	—	—	—	—	—	—	—	—
Belgium ..	..	—	—	—	—	—	—	—	—	—
Netherlands ..	..	—	—	—	—	—	—	—	—	—
Switzerland ..	..	—	—	—	—	—	—	—	—	—
Germany ..	..	—	—	—	—	—	—	—	—	—
Austria ..	..	—	—	—	—	—	—	—	—	—
Other countries ..	..	—	—	—	—	—	—	1,680	1,908	4,826
Total for year ending Dec. 31, 1929		1,129,303	490,491,506	—	850	22,500	2,448	491,646,607	—	—
" " Dec. 31, 1928		879,569	453,763,136	7,125	82,490	19,211	11,974	—	454,763,505	—
" " Dec. 31, 1927		1,052,046	507,163,560	2,500	3,373	120	29,880	—	—	508,260,315

Total for year ending	Dec. 31, 1929
"	Dec. 31, 1928
"	Dec. 31, 1927

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TABLE 6.—IMPORTS OF WHITE (BLEACHED) COTTON

	Chadars yds.	Checks, Spots and Stripes yds.	Dhutties, Sarees and Scarves yds.	Dolls and Jeans yds.	Flannels and Flannel- ettes yds.	Jacquets Mada- pollants, Cambrics and Muslins yds.	Lawns yds.	Long- cloth and Shertings yds.
United Kingdom	—	—	—	—	—	—	—	—
Japan	—	—	—	—	—	—	—	—
China (incl. Hong Kong)	—	—	—	—	—	—	—	—
U.S.A.	—	—	—	—	—	—	—	—
Italy	—	—	—	—	—	—	—	—
Belgium	—	—	—	—	—	—	—	—
Netherlands	—	—	—	—	—	—	—	—
Switzerland	—	—	—	—	—	—	—	—
Germany	—	—	—	—	—	—	—	—
Austria	—	—	—	—	—	—	—	—
Other countries	—	—	—	—	—	—	—	—
Total for year ending								
Dec. 31, 1929	53,588	11,872,040	51,704,890	6,467,917	23,280	16,180,629	11,932,924	100,408,079
Dec. 31, 1928	178,296	15,516,603	50,034,288	5,692,816	13,289	16,610,202	7,480,820	121,772,966
Dec. 31, 1927	251,196	12,810,680	57,196,774	6,556,056	38,732	18,950,237	8,649,573	118,832,147

TABLE 7.—IMPORTS OF PRINTED COTTON PIECE

	Cambrics including Mada- pollants, Muslins, Mells and Jacquets yds.	Chadars yds.	Checks, Spots and Stripes yds.	Dhutties yds.	Dolls and Jeans yds.	Flannel and Flannel- ettes yds.	Lawns yds.	Prints and Cherties yds.
United Kingdom	—	—	—	—	—	—	—	—
Japan	—	—	—	—	—	—	—	—
China (including Hong Kong)	—	—	—	—	—	—	—	—
U.S.A.	—	—	—	—	—	—	—	—
Italy	—	—	—	—	—	—	—	—
Belgium	—	—	—	—	—	—	—	—
Netherlands	—	—	—	—	—	—	—	—
Switzerland	—	—	—	—	—	—	—	—
Germany	—	—	—	—	—	—	—	—
Austria	—	—	—	—	—	—	—	—
Other countries	—	—	—	—	—	—	—	—
Total for year ending								
Dec. 31, 1929	10,250,682	5,206	1,541,790	4,712	59,197,404	4,096,567	7,500,524	61,866,418
Dec. 31, 1928	21,040,619	2,400	1,787,687	29,712	28,821,231	11,922,788	4,639,828	74,722,024
Dec. 31, 1927	29,122,851	—	2,075,618	1,809,099	29,816,870	12,262,860	6,326,630	61,467,800

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PIECE GOODS INTO BRITISH INDIA IN 1929, 1928 and 1927

Mulls yds.	Nainsooks yds.	Sheetings yds.	T-Cloth and Domestics yds.	Twills yds.	Un- specified Descrip- tions yds.	Total for 12 months ending December 31		
						1929 yds.	1928 yds.	1927 yds.
—	—	—	—	—	—	445,577,684	535,039,908	542,669,446
—	—	—	—	—	—	8,986,398	4,318,108	5,511,363
—	—	—	—	—	—	11,626	4,757	13,599
—	—	—	—	—	—	1,908,725	1,095,915	467,292
—	—	—	—	—	—	1,503,758	1,991,826	1,099,443
—	—	—	—	—	—	259,143	109,551	192,789
—	—	—	—	—	—	7,293,295	8,198,508	7,637,994
—	—	—	—	—	—	7,626,568	11,822,064	10,081,903
—	—	—	—	—	—	154,311	166,529	157,527
—	—	—	—	—	—	3,116,531	2,055,147	440,320
—	—	—	—	—	—	705,211	513,029	574,738
203,977,545	53,173,380	97,451	5,419	16,165,647	5,060,116	477,143,250	—	—
242,410,201	86,882,347	268,784	27,683	17,466,665	10,181,144	—	565,315,412	—
217,660,500	82,672,772	140,033	184	14,394,734	11,118,926	—	—	568,846,414

GOODS INTO BRITISH INDIA IN 1929, 1928 and 1927

Series and Scarves yds.	Satin yds.	Shirtings yds.	Twills yds.	Woven Lungis and Sarangs yds.	Un- specified Descrip- tions yds.	Total for 12 months ending December 31		
						1929 yds.	1928 yds.	1927 yds.
—	—	—	—	—	—	138,754,715	187,763,183	182,520,581
—	—	—	—	—	—	52,153,854	26,833,832	19,661,843
—	—	—	—	—	—	46,895	82,269	27,809
—	—	—	—	—	—	180,783	334,691	374,520
—	—	—	—	—	—	10,917,602	23,890,729	14,734,793
—	—	—	—	—	—	10,500	79,732	285,450
—	—	—	—	—	—	5,231,459	5,698,757	1,207,633
—	—	—	—	—	—	245,642	563,264	597,678
—	—	—	—	—	—	280,202	575,539	915,566
—	—	—	—	—	—	2,520	15,079	48,183
—	—	—	—	—	—	1,482,509	2,091,122	3,227,526
27,578,367	2,903,195	27,898,245	10,548,199	6,722,266	2,399,825	209,306,681	—	—
32,154,831	4,735,514	34,256,420	20,106,889	8,147,092	5,300,432	—	247,928,197	—
25,640,963	5,067,642	29,119,525	15,575,323	3,299,759	8,005,880	—	—	223,601,582

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TABLE 8.—IMPORTS OF DYED COTTON PIECE

					Cambrics including Mada- pollams, Muslins Mulls and Jaconets	Chadars	Checks, Spots and Stripes	Dhuties	Drills and Jeans	Flannel and Flannel- ettes	Italian cloth and Satin
					yds.	yds.	yds.	yds.	yds.	yds.	yds.
United Kingdom	..	..	..	..	—	—	—	—	—	—	—
Japan	..	..	..	..	—	—	—	—	—	—	—
China (including Hong Kong)	..	..	..	..	—	—	—	—	—	—	—
United States of America	..	..	..	..	—	—	—	—	—	—	—
Italy	..	..	..	..	—	—	—	—	—	—	—
Belgium	..	..	..	..	—	—	—	—	—	—	—
Netherlands	..	..	..	..	—	—	—	—	—	—	—
Switzerland	..	..	..	..	—	—	—	—	—	—	—
Germany	..	..	..	..	—	—	—	—	—	—	—
Austria	..	..	..	..	—	—	—	—	—	—	—
Other countries	..	..	..	..	—	—	—	—	—	—	—
Total for year ending Dec. 31, 1929					26,060,900	6,050	11,493,759	246,817	7,529,379	3,058,335	16,509,965
"	"	Dec. 31, 1928	..	..	29,311,937	2	11,405,241	119,679	7,915,685	4,135,434	34,065,539
"	"	Dec. 31, 1927	..	..	22,994,140	67,586	9,505,283	127,828	9,947,183	4,783,928	20,798,740

TABLE 9.—IMPORTS OF WOVEN COLOURED COTTON

					Cambrics including Mada- pollams, Muslins, Mulls and Jaconets	Chadars	Checks, Spots and Stripes	Coatings and Trouserings inclusive of Cashmere Serges and Tweeds	Dhuties	Drills and Jeans	Flannel and Flannel- ettes
					yds.	yds.	yds.	yds.	yds.	yds.	yds.
United Kingdom	..	..	..	..	—	—	—	—	—	—	—
Japan	..	..	..	..	—	—	—	—	—	—	—
China (including Hong Kong)	..	..	..	..	—	—	—	—	—	—	—
United States of America	..	..	..	..	—	—	—	—	—	—	—
Italy	..	..	..	..	—	—	—	—	—	—	—
Belgium	..	..	..	..	—	—	—	—	—	—	—
Netherlands	..	..	..	..	—	—	—	—	—	—	—
Switzerland	..	..	..	..	—	—	—	—	—	—	—
Germany	..	..	..	..	—	—	—	—	—	—	—
Austria	..	..	..	..	—	—	—	—	—	—	—
Other countries	..	..	..	..	—	—	—	—	—	—	—
Total for year ending Dec. 31, 1929					1,698,800	—	11,302,914	7,801,910	418,380	32,079,120	2,680,921
"	"	Dec. 31, 1928	3,081,725	39	10,218,642	12,027,175	389,413	17,384,802	2,921,352
"	"	Dec. 31, 1927	2,679,050	2,785	6,273,696	8,867,107	186,224	26,217,835	4,316,002

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GOODS INTO BRITISH INDIA IN 1929, 1928 and 1927

Lungis yds.	Prints and Chintz yds.	Series and Scarves yds.	Shirtings yds.	Twill yds.	Woven Lungis and Sarangs yds.	Un- specified Descrip- tions yds.	Total for 12 months ending December 31		
							1929 yds.	1928 yds.	1927 yds.
—	—	—	—	—	—	—	104,915,944	127,406,884	111,151,051
—	—	—	—	—	—	—	24,728,598	20,843,364	32,133,307
—	—	—	—	—	—	—	136,801	133,321	340,150
—	—	—	—	—	—	—	5,685,798	2,651,722	1,116,209
—	—	—	—	—	—	—	4,521,484	5,473,342	2,944,305
—	—	—	—	—	—	—	29,967	124,752	139,548
—	—	—	—	—	—	—	3,651,525	3,481,060	4,433,633
—	—	—	—	—	—	—	1,025,682	1,706,597	1,236,750
—	—	—	—	—	—	—	315,185	468,892	316,223
—	—	—	—	—	—	—	163,408	341,456	125,912
—	—	—	—	—	—	—	808,504	941,437	621,239
205,823	3,197,077	3,360,133	45,609,631	14,508,919	293,494	13,902,614	145,982,896	—	—
111,681	1,323,240	2,664,217	35,938,767	16,812,497	580,464	19,183,444	—	163,572,827	—
194,929	3,364,177	3,456,587	38,034,114	12,789,129	627,217	27,867,486	—	—	154,558,327

PIECE GOODS INTO BRITISH INDIA IN 1929, 1928 and 1927

Prints and Chintz yds.	Series and Scarves yds.	Shirtings yds.	Twill yds.	Velvet and Velvet- eens yds.	Lungis and Sarangs yds.	Un- specified Descrip- tions yds.	Total for 12 months ending December 31		
							1929 yds.	1928 yds.	1927 yds.
—	—	—	—	—	—	—	41,315,387	45,413,226	42,603,520
—	—	—	—	—	—	—	60,969,718	48,534,336	56,896,761
—	—	—	—	—	—	—	64,011	90,185	14,606
—	—	—	—	—	—	—	362,139	267,952	134,433
—	—	—	—	—	—	—	7,050,647	6,863,277	5,364,174
—	—	—	—	—	—	—	907,069	2,181,177	1,260,293
—	—	—	—	—	—	—	4,676,843	1,747,712	6,471,405
—	—	—	—	—	—	—	298,434	610,921	736,879
—	—	—	—	—	—	—	750,901	1,296,078	1,327,465
—	—	—	—	—	—	—	7,609	30,217	3,590
—	—	—	—	—	—	—	207,630	191,249	467,038
116,424	2,982,476	22,555,714	9,947,419	1,673,446	8,552,221	14,800,643	116,610,388	—	—
28,240	2,239,679	25,210,663	12,145,898	2,464,501	3,204,451	15,909,750	—	107,226,330	—
46,458	5,028,868	21,963,778	11,852,597	1,628,069	8,615,148	17,602,547	—	—	115,280,164

TABLE 10.—TOTAL IMPORTS OF COTTON PIECE GOODS (ALL DESCRIPTIONS) INTO BRITISH INDIA IN 1929, 1928 and 1927

	Piece goods										Total for 12 months ending	
	Grey Plain yds.	Grey Bordered yds.	White (Bleached) yds.	Printed yds.	Dyed yds.	Woven coloured yds.	Fents of all descrip- tions yds.	Towels in the piece yds.	Fents of cotton and artificial silk yds.	Canvas yds.	December 31	
											1929 yds.	1927 yds.
United Kingdom .. ..	..	..	—	—	—	—	—	—	—	—	1,283,849,948	1,546,631,172
Japan .. ..	..	..	—	—	—	—	—	—	—	—	537,370,676	333,810,456
China (including Hong Kong)	..	..	—	—	—	—	—	—	—	—	18,216,967	7,225,028
United States of America ..	..	..	—	—	—	—	—	—	—	—	32,713,055	25,032,429
Italy .. ..	..	..	—	—	—	—	—	—	—	—	36,479,181	38,017,512
Belgium .. ..	..	..	—	—	—	—	—	—	—	—	1,733,819	2,594,075
Netherlands .. ..	..	..	—	—	—	—	—	—	—	—	20,997,367	19,840,949
Switzerland .. ..	..	..	—	—	—	—	—	—	—	—	15,518,989	21,513,812
Germany .. ..	..	..	—	—	—	—	—	—	—	—	2,571,546	6,997,141
Austria .. ..	..	..	—	—	—	—	—	—	—	—	4,916,657	2,771,116
Other countries .. ..	..	..	—	—	—	—	—	—	—	—	4,237,065	6,293,380
Totals for year ending												
December 31, 1929 ..	433,251,300	491,646,607	477,143,250	209,306,681	145,982,896	116,619,388	36,456,455	2,151	47,127,494	1,078,048	1,958,605,270	—
December 31, 1928 ..	305,162,185	454,763,505	565,315,412	247,928,197	163,572,827	107,226,330	36,777,698	2,903	58,855,322	1,235,809	—	—
December 31, 1927 ..	360,568,306	508,260,315	568,846,414	223,601,582	154,558,327	115,280,164	34,032,346	10,976	44,597,642	970,998	—	2,010,727,070

TABLE 11.—RE-EXPORTS OF FOREIGN MANUFACTURED COTTON YARN AND PIECE GOODS FROM BRITISH INDIA IN 1929, 1928 and 1927

	Yarns					Piece Goods							
	Twist and Yarns lbs.	Rope lbs.	Sewing Thread lbs.	Total for 12 months ending December 31st			Grey (Un-bleached) yds.	White (Bleached) yds.	Printed, Coloured or Dyed yds.	Fents of all descriptions yds.	Total for 12 months ending December 31		
				1929 lbs.	1928 lbs.	1927 lbs.					1929 yds.	1928 yds.	1927 yds.
European countries	118,248	67,296	142,684
China (including Hong Kong)	37,812	81,558	57,507
Egypt and North Africa	14,200	70,736	9,405
Red Sea Ports	1,030,304	2,023,959	3,219,485
East Africa	2,172,267	3,997,820	5,115,273
Levant and Black Sea Ports	2,363	223,900	478,900
Ceylon and Straits	1,770,584	2,354,317	2,172,690
Persian Gulf	16,233,088	19,869,703	20,367,214
South Africa	542,631	356,230	556,895
Other countries	40,579	95,002	12,115
Total for year ending December 31, 1929	..	508,010	—	67,627	575,637	—	6,980,516	3,819,003	11,102,066	57,404	3,087	21,962,076	—
December 31, 1928	..	631,654	168	72,885	—	704,707	10,636,189	4,783,074	13,658,761	58,591	3,906	—	—
December 31, 1927	..	1,102,464	3,734	66,433	—	—	1,172,631	4,987,834	12,570,682	21,805	3,294	—	32,323,709

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SUMMARY OF THE NUMBER OF PACKAGES IMPORTED INTO BOMBAY DURING THE CALENDAR YEAR 1929

Descriptions	From Great Britain	From Continent				From Far East			From all other ports	Grand total
	From Jan. 1 to date	Italy From Jan. 1 to date	Germany From Jan. 1 to date	Switzerland From Jan. 1 to date	Austria From Jan. 1 to date	Holland From Jan. 1 to date	Japan From Jan. 1 to date	China From Jan. 1 to date	From Jan. 1 to date	From Jan. 1 to date
WHITE :										
Longcloth, shirtings	10,147	2	—	9	12	1,012	394	—	7	11,583
Mulls	18,524	—	—	—	—	—	10	—	—	18,531
Nainsooks	4,870	—	—	45	—	25	85	—	—	5,025
Drills, jeans and twills	4,180	2	—	—	—	29	172	—	4	4,387
Other sorts	3,625	226	179	1,676	244	48	117	1	1,316	7,432
Grey and white dhooties	17,290	—	—	—	—	—	1,990	—	5	19,285
GREY :										
Shirtings	3,718	—	—	—	—	—	67,164	3,143	—	74,025
Jaconets	2,511	—	—	—	—	—	—	—	—	2,511
Mulls	2,396	—	—	—	—	—	—	—	—	2,396
Drills, sheetings	101	—	—	—	—	—	7,568	38	656	8,363
Other sorts	909	—	—	—	—	18	39	—	2	968
PRINTS :										
Shirtings and scarves	9,743	—	—	—	—	—	—	—	10	9,753
Shirtings, jeans	2,532	324	1	—	—	—	17,954	—	2	20,813
Other sorts	16,618	387	27	88	—	5	1,613	—	196	18,934
FANCY GOODS :										
Cotton fancy goods, all sorts	38,028	5,419	728	2,741	544	77	24,702	3	3,771	76,013
Cotton and art. silk fancy goods	3,852	7,998	1,261	5,672	1,057	158	11,698	525	814	33,035
Woollen goods, all sorts	6,257	6,068	2,763	83	74	489	281	—	2,701	18,716
Silk goods	132	168	617	138	33	17	7,309	4,775	1,258	14,447
Fents, all sorts	6,808	68	28	191	8	—	112	—	13,189	20,404
YARNS :										
Grey	24,859	1,653	—	4	15	—	6,950	8,615	27	42,123
Bleached	5,864	48	—	—	—	—	941	—	—	6,853
Coloured	643	88	14	255	—	—	58	—	4	1,062
Mercerised	933	16	—	—	—	—	17,694	—	—	18,643
Artificial silk	2,737	14,526	1,640	2,022	172	1,174	—	—	2,373	24,657
Spun and waste silk	188	4,155	1,387	1,521	173	17	1,998	870	485	10,781
Woollen	364	3	1,061	—	118	—	—	1	120	1,667
Total	187,826	41,151	9,706	14,445	2,450	3,069	168,849	17,971	26,940	472,407

SUMMARY OF THE NUMBER OF PACKAGES IMPORTED INTO CALCUTTA DURING THE CALENDAR YEAR 1929

Grey dhooties	77,831	—	—	—	23,242	—	—	101,073	23,017
W.Y. dhooties	28,005	—	—	—	1	—	—	28,006	—
GREY :									
Grey shirtings	6,063	176	—	—	60,266	2,259	—	68,764	7,494
Grey jaconets	5,369	—	—	—	160	—	—	5,532	2
Grey mulis	817	—	—	—	15	—	—	832	—
Grey above 10 yds. jaet dhooties	8,968	—	—	—	—	—	—	8,968	—
Grey chudders	692	—	—	—	—	—	—	692	5,991
Grey drills, sheetings	220	11	—	—	5,100	75	—	5,406	1,013
WHITE :									
White nainsooks	11,175	12	—	—	124	—	—	11,311	—
White mulls	13,740	14	—	—	—	—	—	13,754	—
White jaconets	1,244	—	—	—	76	30	—	1,350	—
White shirting longcloths	4,719	147	—	—	914	639	2	6,421	1,042
White drills, jeans, twills	3,464	67	—	—	—	840	—	4,371	97
White scarves	3,387	—	—	—	—	—	—	3,396	—
White other sorts	775	132	—	—	82	—	175	1,155	65
PRINTED :									
Printed sarries	4,543	—	—	—	6	—	—	4,549	6
Printed other sorts	7,673	216	67	145	8,208	—	128	16,437	94
DYED AND FANCIES :									
Dyed goods	11,203	560	3	194	17,211	26	301	29,606	2,127
Fancy goods	16,569	3,235	333	1,801	8,923	1	673	31,427	2,370
Flannels	186	257	35	5	3,607	—	1	4,091	76
Blankets	23	361	282	1,893	51	—	1,009	3,619	1,072
Shawls	518	198	201	75	—	—	5	997	63
Woollen goods	4,059	9,347	2,492	276	178	3	1,820	18,175	121
Artificial silk goods	1,290	4,244	891	93	2,418	6	250	9,192	202
Silk goods	87	28	57	20	1,177	97	131	1,601	23
Hosiery	164	141	909	7	38,798	2,534	225	42,778	339
All other sorts	1,801	723	254	213	4,797	7	857	8,652	1,131
Yarns, grey	9,328	1,065	53	—	3,467	13,562	11	27,486	43,826
Yarns, dyed	3,100	1,177	71	23	8	16	—	4,391	114
Total	227,013	22,111	5,648	5,738	179,348	18,586	5,588	464,032	90,285
Total for same period last year	236,439	21,634	8,430	—	149,326	—	11,841	427,670	77,279

SUMMARY FOR THE YEAR 1926-1927-1928, FOR THE PORT
OF CALCUTTA

Description	Total for 1926	Total for 1927	Total for 1928	Total for 3 years
GREY :				
Dhooties grey and white yarns	142,096	141,313	115,071	398,480
Grey shirting	36,526	58,286	47,712	142,524
Other sorts	28,644	26,364	19,758	74,766
WHITE :				
Nainsooks	15,357	14,982	15,854	46,193
Mulls	18,832	18,394	13,937	51,163
Other sorts	21,360	21,453	17,454	60,267
COLOURED, PRINTED, WOOLLEN, ART. SILK, HOSIERY, ETC. :				
Coloured goods	80,777	85,425	70,213	236,415
Printed goods	19,308	20,946	17,614	57,868
Woollen goods	12,896	13,944	19,369	46,209
Artificial silk goods	9,560	12,847	12,073	34,480
Silk goods	748	1,001	1,175	2,924
Hosiery, all sorts	39,465	41,198	47,968	128,631
Yarn, all sorts	30,198	36,461	29,472	96,131
Total	455,767	492,614	427,670	1,376,051
IMPORTS FROM RESPECTIVE COUNTRIES :				
Great Britain	301,660	300,293	236,439	838,392
Japan	117,506	151,428	149,326	418,260
Italy	15,387	17,679	21,634	54,700
Germany	10,135	8,858	8,430	27,423
All other countries	11,079	14,356	11,841	37,276
Total	455,767	492,614	427,670	1,376,051
Imports from Indian ports by sea only ..	68,171	104,213	77,279	249,663

LIST OF **BOMBAY IMPORTERS**, AND NUMBER OF PACKAGES OF
PRINTS, WHITES, GREYS, AND YARNS IMPORTED INTO BOMBAY
DURING THE CALENDAR YEAR 1929.

Names of Importers	No. of Packages	Names of Importers	No. of Package
Allen Bros. & Co. (Bom), Ltd.	4,111	Gosho Kabushiki Kaisha, Ltd.	12,288
Anglo Siam Corp., Ltd.	3,466	Graham's Trading Co., Ltd.	3,451
Arnhold & Co., Ltd.	7,835	Greaves Cotton & Co., Ltd.	2,423
Bell Russ & Co.	535	Guttmann & Co.	973
Bendien, J. G., & Co.	370	Herbert Whitworth, Ltd.	1,875
Bettmann & Kupfer	2,166	Hoare Miller & Co., Ltd.	293
Blascheck, H., & Co.	580	Holland Bombay Trading Co., Ltd.	2,417
Bombay Co., Ltd.	3,573	James Finlay & Co., Ltd.	4,180
Burrow, W. J.	845	Japan Cotton Trading Co., Ltd. (N.M.K.K.)	13,717
Cheung Tai	258	Kahn & Kahn	1,628
Chinoy, N. F.	590	Killick, Nixon & Co.	573
Courtaulds (I), Ltd.	3,809	Mitsui Bussan Kaisha, Ltd.	2,306
Cresswell, W. N., & Co.	544	Murdoch, W. F., & Co.	451
David Sassoon & Co., Ltd.	1,800	Nissho & Co., Ltd.	981
Fleming, Shaw & Co.	2,571	Ormerods (I), Ltd.	1,064
Forbes, Forbes, Campbell & Co., Ltd.	11,404	Owen & Okell	1,648
Gillanders Arbuthnot & Co.	1,769	Ralli Bros.	21,932
Gorio, Ltd.	7,172	Reif, B.	771

EXPORTS AND IMPORTS OF COTTON GOODS

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LIST OF BOMBAY IMPORTERS, ETC.—Continued

Names of Importers	No. of Packages	Names of Importers	No. of Packages
Scales, W. H., & Co. ..	641	J. Madhowji Dayal & Co. ..	813
Schorder Smidt—India ..	1,298	Madhowji Thakersey & Co. . .	362
Shashoua, J. S.	1,685	Manilal Balabhai & Co. . .	2,989
Shaw, Wallace & Co. . .	2,462	Maskaft, A. E.	526
Shimwell & Bros.	676	Mathuradass Haribhai . .	256
Spinners, E., & Co. . . .	11,627	Mehta, M. B., & Co. . . .	655
Steiners, Ltd.	2,993	Mehta, P. N., & Co. . . .	2,126
Sulzer, Bruderer & Co. . .	1,990	Mithabhoy & Co.	1,223
Tattersall, G., & Co. . . .	1,031	Mody, N. J., & Co.	374
Thomas, B. Lund & Co. . .	121	J. Moolchand Nemichand . .	10,300
Toyo Menka Kaisha, Ltd. . .	28,827	Morarji Velji & Sons . . .	2,726
Walter Signer & Co. . . .	528	Motilal Vallabhji & Co. . .	682
Wilson Latham & Co., Ltd. .	2,868	Motiwalla, A. H. O., & Co. . .	833
Zollikofer, V., & Co. . . .	365	M. R. V., & Co.	822
Ahmed Abdul Karim Bros. . .	9,483	Nagindass Vijbhukhandass . .	1,102
Anandji Virji & Co.	330	O. Durgadass	2,873
Anandram Mangturam . . .	2,091	Oomer, H. A., & Co. . . .	670
Baboo. B. Murlidhar . . .	120	Padamsey Munjee	758
Batliwalla & Co.	1,112	Patell, P. R., & Co.	460
Bhalchandra Balwant & B. Kara	1,047	Phoomull Bros.	1,584
Central Trading Co.	851	Pranlal Bhimji	978
Chellaram, K.	279	Purshotamdass Dwarkadass . .	867
Cheniram Jesraj	2,151	Purshotamdass Luxmidass . .	232
Chhotalal Ravicarandass . .	3,189	Raghavji Govindji	583
Damoder Govindjee Sons & Co.	790	Ramkishan Bros., J.	926
Damoder Khetsey	3,162	Rasiklal Nagindass	1,825
Desai & Kobayashi	624	Rijhumull Bros.	977
Doshi, K. M., & Sons	1,314	Sampat, C. H., & Co.	474
Ebrahim Carrini & Sons . . .	530	Shanghvi Mody & Co. . . .	1,591
Fakirbhai Chunilal & Co. . .	616	S. Rupjidass	2,567
Framroze Bros.	1,004	Soonderdass, G., & Co. . . .	1,183
Framroze, P., & Co.	620	Tarachand, M. H.	657
Gaganmull Ramchand	888	Tarachand Parsuram	281
Ghela Dayal	1,306	Tata R. D., & Co., Ltd. . . .	1,199
Girdhardas Liladhar & Co. . .	201	Tejumull, T. K.	524
Gobhai Karanjia, Ltd.	3,538	Tolaram Devjiram	1,420
J. Gokaldass, B., & Co. . . .	15,044	Trikamlal, B., & Co.	1,619
Gordhandass Nathalal	2,302	Tulshan & Co., Ltd.	6,167
Hajee Cassim Hajee Habib . .	61	Tulsidass, V. Patel	3,398
Hajee Cassim Hajee Yoosub . .	113	Vassanji Purshotam & Co. . .	383
J. Hajee Hassan Dada	15,856	Vithaldass Jadhavji & Co. . .	1,157
Hajee Mohamed Ghazanfer. . .	307	Vrijlal Dayabhai & Co. . . .	376
Hajee Vally M. M. Motiwala . .	1,556	V. Mathuradass & Co. . . .	514
Haribhai Hemraj & Co. . . .	426	Wassiamull Asoomull	644
Harjiwandass Jagjiwandass & Co.	197	Cox & Kings (Agents), Ltd. . .	6,892
Hassaram, K.	641	Curramsey Damji & Sons . .	690
Jamsetji Ratanjee	890	Grindlay & Co.	1,506
Jayakar, N. K., & Co.	755	Harilal & Co.	6,071
Jethabhai Walji & Co.	395	Jeena & Co.	4,157
Jethmull Dhalamull	444	Mackinnon Mackenzie & Co. .	3,864
K. Mohanjee	2,633	Thos. Cook & Son, Ltd. . . .	13,752
Keshrichand Chandmull, D.B. .	9,330	Tulslidas Khimjee	9,422
Kharwar, B. M.	3,594	Sundry Importers	89,437
Korday Bros.	517		
Kothare, K. P., & Co.	152		
		Total	472,407

LIST OF CALCUTTA IMPORTERS, AND NUMBER OF PACKAGES OF COTTON GOODS IMPORTED INTO CALCUTTA DURING THE CALENDAR YEAR 1929

Names of Importers	Grey Shirts	Grey Madapollams	Grey Mulls and Jaconettes	Other Greys	Bordered Goods	Plain Whites	Other Whites	Coloured Goods	Sundries	Yarns	Total from Jan. 1, 1929
Allen Bros. & Co. ..	25	—	—	—	282	12	12	20	1,535	—	1,886
Anderson, Wright & Co.	100	2	—	100	11	1,818	349	1,383	321	571	4,655
Arnhold & Co. ..	—	—	—	—	305	580	—	266	910	514	2,575
Ashworth, Aspinall & Co., Ltd. ..	35	—	—	—	677	53	—	5	72	—	842
Balmer, Lawrie & Co. Ltd. ..	—	—	—	—	12	225	22	10	667	856	1,792
Barlow & Co. ..	—	35	—	—	33	30	—	815	69	—	982
Beinraj Hukumchand	5,770	—	105	112	1,286	90	888	472	1,097	140	9,960
Bhikumch and Mulchand	770	—	—	—	207	372	102	169	474	—	2,094
Bird & Co. ..	—	—	—	—	1,925	345	—	816	862	—	3,948
Birkmyre Bros. ..	—	—	—	—	—	—	—	—	396	56	452
B. Blackwood & Co. ..	—	—	45	—	1,740	927	4	150	132	—	2,998
Bombay Co., Ltd. ..	—	—	45	—	4,932	1,559	27	871	451	17	7,902
Chainsukh Gambhirmull	125	147	45	—	2,092	5	1,205	1	913	—	4,533
Chunder, S. C., & Co. ..	—	—	—	—	116	—	—	—	—	—	116
D. D. Sewjee ..	—	—	—	—	1,167	16	23	76	133	—	1,415
David Sassoon & Co. ..	—	—	—	—	185	81	—	5	82	—	353
Ewing & Co. ..	110	—	10	—	909	1,076	207	60	261	96	2,729
Finlay, James, & Co. ..	—	—	239	—	5,651	452	119	1,132	1,150	65	8,808
Forbes, Forbes, Campbell & Co., Ltd. ..	—	—	—	—	153	745	—	207	327	416	1,848
Ghoso Kabunsikhi Kaisha, Ltd. ..	4,655	—	—	50	228	—	5	130	793	3,346	9,207
Gillanders, Arbuthnot & Co. ..	—	—	22	—	839	1,216	10	228	447	453	3,215
Gladstone, Wyllie & Co.	—	—	1	—	17	1,031	190	92	188	285	1,804
Gorio, Ltd. ..	—	—	—	—	—	—	—	17	307	—	3,096
Grahams Trading Co., Ltd. ..	207	—	437	—	5,536	2,884	525	1,405	2,888	1,138	15,020
Greaves Cotton & Co.	—	—	—	—	414	420	7	188	197	979	2,205
Hazarimull Hiralall ..	18,406	35	30	100	19,917	69	—	—	—	1,917	40,474
Hoare, Miller & Co. ..	—	—	—	—	25	442	—	1,456	319	—	2,242
Holland Bombay Trading Co. ..	—	—	—	6	—	1,063	26	57	1,263	—	2,415
Haribux Doorga Prasad	265	—	839	—	1,771	44	—	12	75	690	3,696
Jardine, Skinner & Co.	2,697	—	4	50	3,077	369	20	2	588	857	7,664
John Catlow & Sons, ..	35	—	6	—	1,190	1	—	—	—	—	1,232
J. D. Jones & Co. ..	—	—	—	—	—	38	—	—	47	134	219
Josub Pir Mohamed & Co. ..	—	—	—	—	—	—	31	9	3,746	—	3,786
Jogilall Kamlapat ..	968	—	—	50	430	228	404	65	245	309	2,699
Kahn & Kahn ..	—	—	—	—	204	680	8	45	1,152	—	2,089
Kerr, Tarruck & Co., Ltd. ..	—	—	—	—	48	719	—	17	848	655	2,287
Kettlewell, Bullen & Co. ..	133	15	13	—	1,407	357	—	272	68	116	2,381
Manickchand, Tarachand ..	—	—	—	—	337	—	—	—	—	—	337
Nippon Menkwa Kabusiki Kaisha ..	4,888	—	100	—	507	90	281	20	276	6,689	12,851
Panalal Sagarmull ..	50	—	5	—	2,622	137	813	230	2,127	—	5,984
Petrocochino Bros. ..	—	—	1,044	—	920	710	—	—	—	—	2,674
Ralli Bros. ..	1,156	125	2,754	10	18,560	4,239	1,548	1,937	3,757	1,060	35,146
Sarupchand Hukumchand ..	3,950	—	—	100	575	—	—	18	4	50	4,697
Shaw, Wallace & Co. ..	173	—	—	—	740	1,029	434	429	163	—	2,968
Shimwell Bros. ..	13	—	—	—	1,539	1,778	1	217	564	61	4,173
Shovachand Dhonraj	163	20	—	—	—	—	—	—	20	—	203
Steiners, Ltd. ..	—	—	—	—	—	—	14	2,439	173	—	2,626
Struthers & Co. ..	—	—	70	—	126	1,152	45	1,348	1,155	123	4,019
Toyo Menkwa Kaisha, Ltd. (the O.C.T.) ..	10,226	—	30	207	5,394	359	465	806	383	4,022	21,892
Udaychand Pannalall	1,365	—	—	500	2,152	—	300	108	50	—	4,475
Walker, Goward & Co.	—	—	—	—	477	367	304	3	152	252	1,555
Banks ..	24	—	—	—	974	172	44	677	1,236	51	3,178
Sundry Importers (Europeans) ..	—	—	—	3	6	50	415	186	14,205	326	15,191
Sundry Importers (Natives) ..	13,662	56	593	2,206	42,478	4,650	13,988	9,748	108,907	5,631	201,919
From Indian ports ..	7,081	—	—	198	28,816	753	447	1,046	7,938	44,437	90,716
Total from Jan. 1, 1929	77,052	435	6,437	3,692	163,009	33,433	23,283	29,665	166,905	76,312	580,223
Total for the same period 1928 ..	51,458	818	8,140	3,812	139,647	37,635	14,741	26,528	177,387	71,884	532,050

Lists of Importers in Delhi and Karachi can be obtained from the Chambers of Commerce there.

EXPORTS AND IMPORTS OF COTTON GOODS 191.

Japan's exports have taken away from Great Britain only 20 per cent. of her cotton piece goods trade with India, but India's mill production has replaced 76 per cent. of England's lost trade. India imports now only 62 per cent. of the pre-war total.

Whilst the Indian mills contributed 27.2 per cent. of the cloth consumed in India in 1913-14, England supplied 72.6 per cent. By 1922-23 Indian mills provided 52.5, England 44.2 per cent., and Japan 3 per cent., by 1927-28 these figures were : India 55.8 per cent., England 30.5 per cent., and Japan 7.7 per cent.

INDIAN MILL PRODUCTION COMPARED WITH IMPORTS FROM GREAT BRITAIN AND JAPAN

(Thousand yards)

Fiscal years	Indian production	Imports Great Britain	Japan	Total of these	Official total Imports Production
1913-14 ..	1,164,292	3,104,311	8,901	4,277,504	4,361,000
1919-20 ..	1,639,779	967,127	75,953	2,691,859	2,691,000
1920-21 ..	1,580,849	1,291,763	170,339	3,042,951	3,091,000
1921-22 ..	1,731,573	955,099	90,275	2,776,947	2,824,000
1922-23 ..	1,725,284	1,453,408	107,778	3,286,470	3,319,000
1923-24 ..	1,700,397	1,318,804	122,666	3,141,867	3,188,000
1924-25 ..	1,970,399	1,614,000	155,000	3,739,399	3,793,000
1925-26 ..	1,954,463	1,287,000	217,000	3,458,463	3,518,000
1926-27 ..	2,258,716	1,467,000	244,000	3,969,716	4,047,000
1927-28* ..	2,356,565	1,543,000	323,000	4,222,565	4,330,000
1928-29* ..	1,893,269	1,456,000	357,000	3,706,269	3,829,000

* Strike in Bombay in each year.

PERCENTAGE OF SHARE OF THE PRINCIPAL IMPORTING COUNTRIES

Fiscal year to March 31	England per cent.	Japan per cent.	Holland per cent.	Italy per cent.	Switzerland per cent.	Others per cent.	Total per cent.	Total million yds.
1899-1900	98.9	—	.3	.1	.2	.5	100	2,191
1913-14	97.1	.3	.8	.7	.2	.9	100	3,197
1922-23	91.2	6.8	.8	.1	.2	.9	100	1,593
1923-24	88.8	8.3	.7	.4	.5	1.3	100	1,486
1924-25	88.5	8.5	.6	.5	.4	1.5	100	1,823
1925-26	82.0	13.6	1.1	.8	.6	1.9	100	1,564
1926-27	78.2	16.3	1.0	1.2	.7	2.6	100	1,788
1927-28	78.2	16.4	1.0	1.3	.8	2.3	100	1,973
1928-29	75.2	18.4	1.0	1.9	.7	2.8	100	1,937

England exported in 1913 altogether 7,075,000,000 yds., of which India took 43.2 per cent. = 3,057,000,000 yds., but by 1928 England exported to India only 37 per cent. = 1,452,000,000 yds.

How Japan and the Indian mills have taken away the grey trade from Lancashire is strikingly illustrated from the following tables :—

(Million yards)

Years	United Kingdom	Imports Japan and all others	Total imports	Indian production	Total of imports and production
1907-08 ..	581		581	207	788
1912-13 ..	619	3	622	302	924
1913-14 ..	540	5	545	292	837
1917-18 ..	33	40	123	451	574
1922-23 ..	241	39	280	470	750
1923-24 ..	93	26	119	443	562
1924-25 ..	146	61	207	526	733
1925-26 ..	87	84	171	521	692
1926-27 ..	71	98	169	580	749
1927-28 ..	76	157	233	620	853
1928-29 ..	48	204	252	474*	726
1929-30 (half-yr.)	12	149	161	260	421

* Strike

Mill Cloth Consumption per capital in India :—

1926	1925	1924	1923	1922	1921	1920
13·99	15·01	12·12	13·62	11·64	12·42	8·80 yds.
1919	1918	1917	1916	1915	1914	1913
10·27	11·34	12·16	13·37	14·35	16·28	15·81 yds.

Japan's inroads into the imports of India, which, until before the war, came mainly from England, representing now 20 per cent. of the loss of England's trade, are due to the expansion and the efficiency of her modern mills, her double-shift system and mass-production methods. Japan's principal gain is due to the manufacture of standard grey goods, and in these she has ousted in the Indian market every competitor; she has even beaten the Indian mills, so much, indeed, that, in spite of the 11 per cent. protection enjoyed until lately by the Indian mills, they had not been able to put a stop to Japan's progress, except in the very coarse goods. Why Japan has been able, in spite of this heavy tariff, to achieve this success, has been described at the end of the first chapter of this book; we may add here only the following remarks: Besides having modern technical mills, staffed by disciplined operatives, the exporting firms of the Japanese employ scientific commercial methods available only to large combinations of firms with world-wide ramifications. An outstanding example of the application of high commercial methods occurred towards the end of January, 1930. It is, of course, known that all the Japanese importers keep regularly large stocks in Bombay, Calcutta, Karachi, etc., of the staple qualities which they are accustomed to sell in these markets. The Indian markets were taken unawares in January, when suddenly the Japanese firms sold these stocks much below replacement prices, apparently without any justifiable reason. Everybody thought that the Japanese importers were unwise in "slaughtering" their stocks, but what had really occurred was shown a few weeks later, viz., the Japanese cotton-buying houses in New York and Dallas, which are identical with the houses selling the manufactured goods in India and China, had realized that the effect of the New York Stock Exchange crash of last autumn had not yet run its course as regards cotton. Although cotton had gone down in price, it had not receded as much as other raw materials; consequently, they will have argued, that if and when the further decline in cotton would come, their stocks of manufactured goods in India, China and other parts of the world would be much affected, that it would be wiser to be the first in the market, forcing sales at reduced prices. Such action, carried out in several big markets simultaneously, would have a bearish influence on raw cotton prices and give the importing houses a chance of recouping their apparent losses on manufactured goods by purchasing against these sales raw cotton. The two transactions, as experience has shown, resulted in a good profit, whilst all the world thought that the Japanese were unwise in selling below replacements costs.

Such transactions are too speculative for the average-sized firm; to carry them out successfully requires a world-wide organization with a staff of first-class economists. Japan is not only setting the pace in modern mill equipment, but also in high commerce, and

those countries which are unable to adopt similar hedging methods will every now and then be confronted with apparently enigmatical transactions which have almost the appearance and effect of dumping. These hedges are not undertaken in Japan by cotton manufacturers but by the firms who export the cotton goods, i.e., by the shipping houses, as the term is generally used in Manchester. How many European exporters of cotton goods use hedges?

In the course of my investigations I considered it my duty to trace the sale of cotton goods in the wholesale bazaars of Bombay and Calcutta, particularly the former. Whether it is due to the evil smells and filth which characterize these important centres of commerce, or to some other reason unknown to me, the fact is that although I spent on various occasions several hours in these emporia of the world's cotton goods, I did not see a single European on my peregrinations, and when I commented on their absence the dealers told me that only very few visit the bazaars occasionally.

In the course of my bazaar visits I obtained a great deal of information, which I have no space to detail here, but I may state the following few general remarks.

Whilst 20 or 30 years ago, before the advent of Japanese cotton mills, it might have been right for the manufacturer to send his patterns to exporting houses in Europe, for them to send them out (or not) to an importing house in Bombay, Calcutta, etc., which employs a selling broker to sell the goods and guarantee the accounts of the wholesale dealer, times have changed and require more direct contact between the manufacturer and the wholesale dealer. The three big Japanese importing houses have caused to be established in the Bombay bazaar a syndicate of 15 dealers who specialize on Japanese goods and deal in no others. This syndicate is taken into the confidence of the Japanese importers. Their selling brokers are in close and almost permanent touch with the syndicate, with whose chairman I had long interviews.

There is no syndicate for the sale of European goods, but there are hundreds of wholesale dealers, each trying to compete and each depressing the price.

Some of the native dealers offered to open credits in London for direct business between the manufacturers and themselves, cutting out all intervening links, but only if they could obtain an advantage in price. It is not an occasional big profit, but a small profit with frequent turnover of the capital employed, which must be the principle in transactions with India. Owing to the severe competition, business on a large scale will be possible only by cutting out useless intermediaries; but, of course, specialized commercial knowledge has to be acquired if manufacturers desire to embark on direct trading.

A survey of India's imports has been compiled by the Indian Government for the purpose of investigating whether the recent protective duties were advisable or not. This elaborate trade analysis was published in the "Hardy" Report, and we reproduce from it the following descriptions, the kinds of cloth made in India, or imported, as well as the particulars of kinds of goods made in Indian mills, together with tables of imports and some of the deductions arrived at by the compilers of that report. The writer cannot too strongly recommend the study of Mr.

Hardy's complete report; it is a masterly piece of research 'work' such as nobody has ever attempted before.*

Trade Names of Cloths.

The following terms imply actual garment-units rather than lengths of cloth or piece goods proper:—*Chadar*, *dhuti*, *sari*, *scarf*, *lungi* and *sarong*. They are marketed occasionally in single pieces, or in sets of three or more, but most commonly in pairs, except in the case of *lungis* and *sarongs* which may be sold in "corges" consisting of as many as 20 pieces.

The word *dhuti* as used in the import returns implies a cloth of dimensions varying from about 2½ yards by 25 ins. to 6 yards by 50 ins. with a woven coloured (or occasionally bleached) border not more than ¾ in. wide and a somewhat similar heading. It is a garment worn by men principally in the north and north-east of India. Certain small imports of unbordered grey *dhutis* appearing in the trade returns are probably the results of misclassification. The word *dhuti* means literally a "washable thing," and is also used in common parlance to include any male loin-cloth whether it be a single unit or cut from a length of plain cloth. In the trade in general, and in particular in the published statistics of production, it is used in a third sense, and there includes not only *dhutis* proper but also the grey and white bordered *saris* described below.

The *sari* is the feminine counterpart of the *dhuti*, and the word is frequently used in a general sense to imply any piece of cloth used as a feminine nether garment. The grey or white *sari* proper differs from the grey or white *dhuti* in having the border more than three-quarters of an inch wide. The coloured *sari* is made in a great variety of colours and patterns, and is generally worn by women of those classes in which the bordered grey or white *dhuti* is not worn by men. *Saris* are also made and sold in sets of two or more.

The *chadar* is likewise a bordered and headed grey or white article, each unit being wider and shorter than the *dhuti*. It is used as a bed-sheet and as a "negligé" wrapper.

The *scarf* is a similar garment worn as a "negligé" wrapper. It is of finer texture than the *chadar* and is therefore not used as a bed-sheet as a rule.

The cotton *lungi* or *sarong* is worn by the poorer classes of Burman, men and women alike, and by certain classes of men in Eastern Bengal. It is a coloured garment generally with a pronounced check and is worn in Burma with the two ends stitched together. The length is from 2 to 2½ yards. The "*sarong*" is the Malay equivalent of the "lungyi" and like the latter, which is a Burmese word, merely means "nether garment." Even in the trade the terms are practically synonymous, the term *sarong* being used in Rangoon mainly for goods re-shipped thither from the Singapore market. *Lungis* and *sarongs* are woven in "corges" of as many as 20 units, and each unit has at one end a wide "kapala" or stripe.

The *susi* is a general term used to cover a large variety of checked or striped coloured cloths which are included with coloured

* "Report on the Import Tariff on Cotton Piece Goods and on the External Competition in the Piece Goods Trade," by G. S. Hardy, Government of India Central Publication Branch, Calcutta, obtainable in Europe at the Office of the High Commissioner of India, 42, Grosvenor Gardens, London, S.W.1.

saris in the statistics of production. For practical purposes it may be taken to include any goods of plain weave with a woven pattern. It is not used in the import trade.

The classes distinguished by the type of weave are *twills*, *drills* and *jeans*, *velvets* and *velveteens*, *sateens* and *Italians*. A *twill* is a four-shaft and a *jean* a three or four-shaft weave. A *drill* is a *jean* with a warp surface and *velvets* and *velveteens* are, of course, piled fabrics. *Sateens* and *Italians* are generally of five-shaft weave or more.

The following names are applied in the various returns to grey or white cloths of plain weave:—

Dongri	Jaconets
Khadi	Mulls
Khaddar	Madapollams
Printers	Muslins
T-Cloths	Lawns
Domestics	Nainsooks
Sheetings	Cambrics
Shirtings	Flannels and
Longcloth	Flannelettes.

Dongri, *Khadi* and *Khaddar* are coarse cloths woven from the lowest counts of yarn. They are sold in competition with handloom cloth from hand-spun yarn.

Printers constitute a class of coarse grey cloth of special dimensions and specially surfaced to receive a printed pattern. The machine printing industry in India has always been very small, and imports of printers have never been on anything but a very small scale, but there is a considerable output in the Indian mills which is used for hand-printed quilt-covers.

T-Cloths, *Domestics* and *Sheetings* are grouped together in the returns of production. All three are plain heavy grey cloths. In the T-cloth the warp and weft are usually of the same count and the length is 24 yards. In the *Domestic* the warp is finer than the weft and the length is from 20 to 66 yards. Both are shipped in various widths. The grey *sheeting* as known in the Indian trade has the warp coarser than the weft, and the usual dimensions are 35 ins. or 36 ins. by 40 yards weighing from 14 to 17 lbs. per piece. In Bombay, however, a 30-yard size of the same quality is both produced and imported. Recently the medium sheetings have been ousted in favour of a 36-in. by 40-yard cloth weighing 11½ to 12 lbs. This has generally been declared as a heavy shirting and recorded in the shirting class, thereby giving a rather misleading impression of the progress of the sheeting trade.

A grey *shirting* is a cloth from 36 ins. to 52 ins. wide by 37 to 39 yards long. It is grouped with grey *longcloth* in both trade and production returns, though the latter term is now almost obsolete in the import trade. The term shirting, though primarily implying certain dimensions, is also often used with reference to quality. In the sizes given above very little cloth woven from finer yarns than 40's x 44's is shipped to India, and "shirting quality" is therefore used to indicate a cloth not exceeding this limit of fineness. In particular, *dhutis* are grouped in the Lancashire trade roughly into three classes, *shirting dhutis*, *jaconet dhutis* and *mull dhutis*. The *jaconet dhuti* is woven with warp yarns from 40's to 48's and

the *mull dhuti* from finer yarns. There is also a small class of *dhutis* sold in the Calcutta market, principally to meet a demand from parts of Bihar, known as "*dhuti jaconets*" and differing only from the ordinary Calcutta *dhuti* in being slightly longer. These have not infrequently been classified wrongly as jaconets in the import returns.

The grey *jaconet* proper is made in all widths but is essentially a cloth 18 to 22 yards in length. The application of the name "*jaconet*" to the class of *dhutis* just mentioned is no doubt due to the fact that these *dhutis* are often made up in sets of three (known as "*tikris*") of about this length. In the import returns for grey cloth the heading "*jaconets, including madapollams, mulls and cambrics,*" comprises other plain grey cloths of plain weave in lengths of 18 to 20 yards, but as these are almost invariably woven from yarns finer than 40's the trade-head may be regarded as including all the finer grey cloths.

The grey *madapollam* is of very open weave, the grey *mull* is generally woven from yarns 50's or finer, and the grey cambric varies in fineness but usually has a coarser weft than warp.

When applied to white cloth, some of these terms have a slightly different significance. The white *shirting* is normally 40 yards in length and of various widths. Unlike the grey *shirting* it is often made from the finer counts of yarn. White *mulls* and white *nainsooks* are made in lengths of 18 to 20 yards. The former is essentially a fine cloth, while the latter may be of any texture, but is folded in a special manner. White *jaconets, cambrics, madapollams* and *muslins* are grouped together in the import returns and are shipped in various dimensions. *Lawns* are a fine white cloth generally shipped in 10-yard lengths.

Prints and *Chintz* form a particular class of coarse printed goods of special dimensions. The head will be found under both the "Printed" and the "Dyed" sub-division of coloured goods in the Import returns. In the latter group the printing is done on dyed cloth, in the former on grey or white (generally grey).

Coatings and *Trouserings*.—These terms are applied to a variety of a heavy coarse fancy cloths, sometimes loaded almost to the consistency of serge or felt, and used for the purpose which their name implies. The terms occur only in the Import Trade Returns.

Tweed's and *checks* form a head in the production returns and comprise a class somewhat similar to that covered by "coatings and trouserings."

Checks, Spots and *Stripes*.—As applied to white goods these imply self-coloured patterns woven by the use of different kinds of white yarn or by modification of the weave in different parts of the cloth. The body of the cloth should be of plain weave, though in some Custom Houses striped twills and drills are shown under "checks, spots and stripes," while in others white-striped white shirtings are shown as shirtings if of the usual shirting dimensions. Printed or woven goods with checks, spots or stripes are classified under this head only if the main body of the cloth is not specifically provided for.

Tent Cloth is not imported in any serious quantity. It is a heavy grey *twill* in special widths used, as its name implies, for tent-making.

TABLE 1.—DETAILED STATEMENT OF THE QUANTITY IN POUNDS AND THEIR EQUIVALENT IN YARDS, AND DESCRIPTION OF WOVEN GOODS PRODUCED IN INDIAN MILLS. GRAND TOTAL, INDIA (BRITISH INDIA AND INDIAN STATES) 000's OMITTED. TWELVE MONTHS, APRIL TO MARCH.

Description		1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Grey and bleached piece goods :												
Chadars	..	14,922	13,264	17,801	19,110	22,527	25,204	23,673	22,797	26,055	22,009	17,766
	{ lbs.											
	{ vds.	42,826	38,765	51,041	56,089	68,177	75,396	69,870	65,603	75,163	67,761	54,049
Dhutis	..	48,358	46,501	50,111	51,466	56,277	60,151	59,132	57,400	70,037	66,641	70,135
	{ lbs.											
	{ vds.	237,900	233,878	249,574	253,246	268,460	291,476	284,770	258,974	323,640	300,949	325,017
Drills and jeans	..	5,912	6,518	6,143	7,341	7,588	7,895	7,510	8,521	12,658	15,403	21,244
	{ lbs.											
	{ vds.	21,573	24,708	22,084	25,604	27,567	28,931	27,813	30,789	46,322	56,503	78,611
Cambrics and lawns	..	492	424	571	553	980	1,067	744	517	1,025	1,124	1,490
	{ lbs.											
	{ vds.	3,152	2,759	4,088	4,171	6,326	7,053	5,053	3,545	5,701	6,379	8,277
Printers	..	5,705	5,686	7,310	7,217	5,558	6,258	6,512	6,448	6,109	7,288	5,932
	{ lbs.											
	{ vds.	7,744	26,186	33,003	33,469	26,399	29,450	30,384	28,007	26,900	31,599	26,593
Shirtings and longcloths..		48,007	48,634	57,848	66,558	71,593	68,644	66,458	75,520	100,006	98,039	99,204
	{ lbs.											
	{ vds.	207,227	206,314	244,896	287,568	313,053	302,624	292,488	320,705	419,625	427,753	450,630
T-cloth, domestics and sheetings	..	25,434	26,217	31,018	30,997	31,576	33,238	29,733	30,815	35,821	46,403	31,169
	{ lbs.											
	{ vds.	120,315	123,841	140,593	139,438	142,107	148,095	128,969	134,288	151,401	192,132	137,396
Tent cloth	..	2,559	2,895	2,299	2,395	2,475	2,382	2,327	3,906	5,479	8,553	12,002
	{ lbs.											
	{ vds.	6,184	7,693	5,780	5,968	6,062	5,782	5,814	8,962	11,844	17,181	24,550
Khadi, Dungree or Khadar	..	—	—	—	—	—	—	—	—	—	—	—
	{ lbs.											
	{ vds.	—	—	—	—	—	—	—	—	—	—	—
Other sorts	..	3,695	4,859	5,502	6,097	6,327	6,272	6,674	7,653	9,975	9,392	9,832
	{ lbs.											
	{ vds.	14,126	21,827	20,460	23,645	25,229	25,384	27,286	29,627	34,264	35,913	35,899
Total	..	155,084	154,997	178,602	191,736	204,901	211,111	202,763	213,576	267,165	274,851	268,772
	{ lbs.											
	{ vds.	680,037	685,972	771,517	829,197	883,381	914,191	872,446	880,502	1,094,867	1,136,170	1,141,022
Coloured piece goods	..	31,235	34,932	47,638	51,786	59,554	71,828	68,829	61,067	81,604	98,352	106,752
	{ lbs.											
	{ vds.	128,380	138,517	192,352	213,545	252,771	306,251	291,846	255,206	346,647	441,962	473,105
Grey and coloured goods other than piece goods..		1,815	1,592	1,704	1,598	1,606	1,813	2,166	1,735	2,541	3,113	3,639
	{ lbs.											
	{ doz.	464	400	429	486	417	415	638	512	653	660	706
Hosiery	..	424	602	624	624	497	501	471	286	356	410	349
	{ lbs.											
	{ doz.	271	212	332	340	273	285	267	179	220	237	215
Miscellaneous	..	192	241	255	71	86	218	158	341	589	960	1,638
Cotton goods mixed with silk or wool	..	—	—	—	—	—	—	—	—	—	—	—
	{ lbs.											
	{ vds.	—	—	—	—	—	—	—	—	—	43	253
Grand total	..	189,052	192,365	228,824	245,815	266,644	285,471	274,389	277,006	352,255	377,729	381,404
	{ lbs.											
	{ yds.	808,427	824,489	963,869	1,042,742	1,136,152	1,220,443	1,164,292	1,135,708	1,441,515	1,578,133	1,614,126
	{ doz.	734	643	761	825	690	700	905	692	874	897	921

TABLE I.—continued.

Description	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29
Grey and bleached piece goods:											
Chadars	12,972 37,914	23,205 68,093	19,841 59,194	19,712 59,428	20,671 63,202	20,237 58,003	21,646 61,614	22,787 62,076	24,137 65,555	25,775 66,824	20,571 56,681
Dhutis	77,777 369,357	73,413 337,602	73,685 340,128	96,157 455,637	91,908 431,145	85,658 399,214	96,507 458,404	110,134 516,394	123,121 585,705	129,746 615,946	115,263 564,154
Drills and jeans ..	15,105 54,284	21,583 80,845	19,722 74,305	15,376 60,452	14,448 56,306	13,931 54,974	18,521 77,191	18,106 74,150	20,177 79,704	22,913 91,198	19,087 76,337
Cambrics and lawns ..	941 5,195	1,666 8,473	1,219 5,951	1,292 7,347	897 5,554	777 3,649	1,144 5,395	581 3,169	664 3,386	986 5,479	744 4,601
Printers	5,181 23,067	6,774 29,837	6,306 28,284	8,038 35,622	9,078 39,073	7,855 34,831	7,760 32,777	6,004 25,872	4,856 20,899	4,609 20,246	4,770 22,471
Shirtings and longcloths ..	86,160 393,779	100,625 444,501	101,138 456,240	109,974 487,034	105,607 470,549	100,315 443,848	118,059 525,524	120,020 521,126	134,772 580,536	140,832 620,028	107,701 474,222
T-cloth, domestics and sheetings ..	24,641 110,511	27,449 122,402	21,293 97,388	19,117 84,117	17,853 81,002	15,608 68,075	17,463 77,742	17,371 74,073	23,680 93,315	24,630 92,164	19,699 75,488
Tent cloth ..	20,109 36,870	2,890 5,671	3,772 7,508	3,247 7,255	2,867 6,588	2,795 6,573	4,156 9,894	3,991 9,005	3,167 6,732	2,618 6,064	2,946 6,935
Khadi, Dungree or Khadar ..	—	—	—	—	—	—	—	—	—	—	—
Other sorts ..	14,955 45,733	19,028 66,649	16,589 60,886	27,123 87,859	37,036 118,371	39,875 128,488	10,576 46,675	87,406 41,035	98,671 42,735	116,119 40,944	93,689 35,015
Total	257,840 1,076,711	276,632 1,164,073	263,564 1,129,883	300,036 1,284,752	300,366 1,271,790	287,050 1,197,654	325,266 1,382,368	339,265 1,414,306	381,711 1,577,238	403,468 1,675,012	330,925 1,409,593
Coloured piece goods ..	85,602 374,015	102,146 475,706	98,388 450,967	98,433 446,822	98,635 453,494	108,330 503,920	125,563 588,031	116,695 540,157	145,321 681,478	148,298 681,553	102,176 483,676
Grey and coloured goods other than piece goods ..	3,744 721	3,320 659	3,485 707	3,053 629	3,423 1,213	2,575 514	2,952 611	3,727 956	4,151 1,006	4,205 992	3,331 786
Hosiery	261 149	294 159	411 117	363 115	464 206	548 245	673 277	873 316	983 352	1,214 438	1,481 449
Miscellaneous ..	1,827	1,250	1,408	1,433	2,201	2,237	3,949	3,772	4,289	5,827	4,404
Cotton goods mixed with silk or wool ..	307	204	227	178	165	207	272	708	2,314	4,794	3,212
Grand total	349,580 1,450,726 870	383,847 1,639,779 818	367,482 1,580,850 825	403,496 1,731,573 744	405,254 1,725,284 1,418	401,661 1,701,574 759	458,840 1,970,399 888	465,040 1,954,463 1,272	538,769 2,258,716 1,358	567,806 2,356,565 1,430	445,529 1,893,269 1,235

TABLE II.—DETAILED STATEMENT OF THE QUANTITY (IN POUNDS) AND THEIR EQUIVALENT IN YARDS AND DESCRIPTION OF WOVEN GOODS PRODUCED IN BOMBAY ISLAND.
TWELVE MONTHS APRIL TO MARCH. 000's OMITTED.

Description

		1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	1917-18
Grey and bleached goods :												
Chadars	..	11,128 lbs.	9,395	11,925	11,603	13,050	13,873	12,436	10,148	11,861	11,103	10,267
	..	31,958 yds.	27,556	34,777	33,640	39,831	39,726	35,962	28,819	33,336	31,655	27,816
Dhutis	..	14,287 lbs.	11,770	11,291	10,697	11,574	11,515	12,049	10,354	13,874	10,847	13,512
	..	69,743 yds.	57,751	56,700	52,385	54,207	54,710	56,703	46,726	61,727	48,341	65,429
Drills and jeans	..	2,668 lbs.	2,793	2,835	3,413	3,652	3,779	3,872	4,671	7,623	9,502	14,603
	..	9,774 yds.	10,509	10,469	12,566	14,109	14,865	14,838	17,567	29,660	36,452	55,596
Cambrics and lawns	..	337 lbs.	273	375	357	632	854	516	394	488	585	800
	..	2,212 yds.	1,859	2,508	2,479	4,252	5,951	3,636	2,831	3,476	4,074	5,269
Printers	..	196 lbs.	79	56	31	17	24	51	14	17	24	12
	..	985 yds.	408	310	157	78	123	278	79	116	122	61
Shirtings and longcloths	..	35,290 lbs.	34,004	39,100	43,469	47,973	43,488	42,070	46,220	62,770	52,334	63,763
	..	159,414 yds.	151,290	173,587	195,809	219,009	198,955	189,617	201,048	269,383	236,283	297,201
T-cloth, domestics and sheetings	..	18,363 lbs.	19,355	21,721	21,064	20,108	19,864	16,927	17,670	24,154	32,898	19,972
	..	89,110 yds.	93,639	102,004	98,545	96,057	92,935	78,322	84,275	108,768	144,514	93,344
Tent cloth	..	1,024 lbs.	1,004	741	643	797	795	714	1,534	2,782	3,905	4,657
	..	2,056 yds.	2,023	1,520	1,343	1,631	1,684	1,535	3,103	5,642	7,189	8,820
Khadi, Dugree or Khaddar	..	—	—	—	—	—	—	—	—	—	—	—
	..	—	—	—	—	—	—	—	—	—	—	—
Other sorts	..	942 lbs.	1,023	1,042	1,291	1,638	1,418	1,591	1,577	1,721	1,647	2,553
	..	4,364 yds.	4,671	4,859	5,752	7,472	6,792	7,941	7,418	7,773	6,662	9,644
Total	..	84,234 lbs.	79,698	89,086	92,567	99,440	95,609	90,227	92,581	125,289	122,846	130,139
	..	369,616 yds.	349,707	386,736	402,676	436,646	415,732	388,834	391,867	519,881	515,292	563,180
Coloured piece goods	..	24,048 lbs.	25,834	35,279	38,565	43,150	51,820	46,451	39,311	56,838	66,672	79,395
	..	102,201 yds.	105,932	145,489	160,549	185,805	226,370	203,531	170,456	251,385	314,893	369,958
Grey and coloured goods other than piece goods	..	1,569 lbs.	1,339	1,424	1,252	1,189	1,209	1,582	1,146	1,834	2,483	2,950
	..	396 doz.	327	344	366	308	246	478	348	478	532	581
Hosiery	..	498 lbs.	382	417	400	305	255	231	123	177	160	171
	..	271 doz.	241	257	248	191	181	179	104	142	143	140
Miscellaneous	..	74 lbs.	22	12	19	11	94	79	202	352	594	1,029
Cotton goods mixed with silk or wool	..	—	—	—	—	—	—	—	—	—	15	96
Total, Bombay Island	..	110,423 lbs.	107,275	126,218	132,803	144,095	148,987	138,570	133,363	184,490	192,771	213,780
	..	471,817 yds.	455,639	532,225	563,225	622,451	642,102	592,365	562,323	771,266	830,185	933,138
	..	666 doz.	568	602	614	499	427	657	452	620	675	721

TABLE II.—continued.

Description	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29
Grey and bleached goods:											
Chadars	5,501 14,820	10,416 29,010	8,769 25,102	9,713 28,248	8,315 25,239	9,050 24,318	9,847 25,734	10,408 26,795	11,795 30,275	12,550 31,155	5,028 13,521
Dhutis	17,283 88,605	15,906 78,919	15,072 77,547	23,916 121,793	20,434 102,025	19,446 97,624	21,116 110,997	21,855 115,412	28,058 150,181	31,597 168,795	15,243 86,509
Drills and jeans ..	8,888 33,292	13,118 50,170	11,435 46,034	8,383 35,504	7,362 31,523	7,771 33,294	11,312 49,907	9,018 38,408	12,229 49,820	14,909 59,248	9,854 37,536
Cambrics and lawns ..	497 3,100	589 3,897	404 2,470	686 4,448	332 2,186	273 1,560	447 2,443	223 1,449	75 352	389 2,395	233 1,802
Printers	57 314	83 449	70 376	303 1,470	306 1,674	65 280	33 165	238 1,042	—	—	—
Shirtings and longcloths ..	49,957 233,227	56,574 255,628	58,113 270,724	69,216 311,600	63,537 289,340	61,959 278,940	71,845 326,482	68,865 306,776	84,778 373,987	82,776 378,053	36,856 167,970
T-cloth, domestics and sheetings ..	12,873 64,672	17,750 82,792	13,924 66,848	11,398 53,722	9,743 48,427	8,358 39,457	9,692 45,034	8,019 36,195	12,477 48,613	11,073 39,401	4,985 17,730
Tent cloth	11,983 21,026	1,541 2,745	1,479 2,924	1,099 2,499	804 1,924	561 1,488	931 2,261	979 2,205	1,155 2,339	653 1,381	827 1,772
Khadi, Dungree or Khad-dar	— 4,974	— 4,768	— 3,448	— 8,659	— 14,860	— 15,189	— 2,795	— 2,667	— 3,184	— 3,273	— 2,212
Other sorts	12,669	14,827	12,313	26,633	44,980	45,897	11,549	10,302	11,264	13,050	8,458
Total	112,014 471,814	120,744 518,436	112,714 504,339	133,372 585,926	125,693 547,318	122,672 522,859	138,825 605,145	131,996 566,097	172,294 717,676	175,564 744,187	81,714 354,627
Coloured piece goods ..	61,043 286,090	71,289 344,856	69,395 332,168	70,853 336,001	66,771 322,966	68,723 333,024	78,162 380,883	63,430 305,744	86,482 417,345	82,770 387,333	37,023 182,776
Grey and coloured goods other than piece goods ..	3,113 616	2,358 486	2,290 503	1,908 420	2,171 487	1,585 349	1,851 429	2,409 721	2,542 657	2,681 714	1,562 414
Hosiery	127 98	124 103	127 94	127 91	110 96	96 81	91 83	76 72	68 66	121 103	7 50
Miscellaneous	1,023	839	962	1,057	1,299	990	1,348	1,281	2,362	2,711	1,001
Cotton goods mixed with silk or wool	113	58	113	64	99	139	115	468	1,371	2,091	721
Total, Bombay Island ..	177,433 757,904 714	195,412 863,292 588	185,601 836,507 597	207,381 921,927 511	196,145 870,285 584	194,206 855,883 431	220,392 986,028 512	199,659 871,841 793	265,120 1,135,021 723	265,937 1,131,521 817	122,078 537,403 644

Of the total output, Bombay Island was responsible for 58 per cent. in 1907-08, but the mills elsewhere advanced more rapidly than Bombay and the percentage had fallen to 50 by 1914-15, and this ratio was fairly steadily maintained up to 1927-28 when the actual ratio was 49 per cent. In the following year it fell to 28 per cent. owing to prolonged labour troubles. In 1927-28, the shares of the various production areas were:—

Production area							Percentage of total yardage produced
Bombay Island	..	..	..	..	..	..	49
Ahmedabad	..	..	..	..	..	..	22
Bombay Presidency (other centres)	..	..	..	..	..	..	7
Delhi and Ajmer-Merwara	..	..	..	..	..	..	2
Central Provinces and Berar	..	..	..	..	..	..	3
Indian States	..	..	..	..	..	..	9
United Provinces	..	..	..	..	..	..	4
Bengal	..	..	..	..	..	..	1
Madras	..	..	..	..	..	..	3
Others	..	..	..	..	..	..	—
Total	..	..	..	..	..	..	100

In the output of grey shirtings the Bombay share has fallen from 77 per cent. in 1907-8 to 61 per cent. in 1927-28, and in coloured goods from 80 to 56 per cent. in the same period.

The Tariff Board went into this question very carefully, and their conclusions were that little if any cotton grown in India was suitable for spinning twist finer than 36's or weft yarn finer than 40's, and that about 380,000 bales or 19 per cent. of the Indian crop was suitable for spinning twist from 30's to 36's and weft from 34's to 40's. Of this, however, they estimated that a considerable proportion was exported from Madras. There has been a slight reduction in exports from Madras, but the quantity available for spinning warp 30's to 36's and corresponding weft yarns can hardly be more than 10 per cent. of the total, say 200,000 bales. To estimate the capacity of the Indian mills for spinning medium and fine cloths it is necessary also to take into account imports of raw cotton of longer staple than the ordinary Indian varieties, as well as imports of fine yarns.

There has been no noticeable increase in the imports of the

finer yarns since the Tariff Board reported, as the following table will show:—

IMPORTS OF YARNS ABOVE 30's IN MILLIONS OF POUNDS.

	Grey			White*			Coloured		
	31's-40's	Above 40's	Two-folds	31's-40's	Above 40's	Two-folds	31's-40's	Above 40's	Two-folds
1923-24 ..	13	7	3	—	—	—	7	1	1
1924-25 ..	21	7	5	—	—	—	6	—	1
1925-26 ..	22	6	5	—	—	—	5	1	1
1926-27 ..	21	7	7	—	—	—	3	1	1
1927-28 ..	22	6	5	1	1	2	4	1	1
1928-29 ..	16	8	5	1	1	3	2	—	1

* Included with grey prior to 1927-28.

The Tariff Board mentioned a large import of American cotton which occurred for the first time in 1926-27, when some 20,000 tons were imported. In the following year imports amounted to 50,000 tons but fell to about 12,000 in 1928-29. Most of this was no doubt used, as the Board surmised, for mixing with Indian cottons for the spinning of coarse yarns. Imports of raw cotton from Kenya have been as follows:—

							Tons
1923-24 ..	..	..	..	..	..	..	10,000
1924-25 ..	..	..	..	..	..	..	16,000
1925-26 ..	..	..	..	..	..	..	16,000
1926-27 ..	..	..	..	..	..	..	13,000
1927-28 ..	..	..	..	..	..	..	13,000
1928-29 ..	..	..	..	..	..	..	15,000

but although the figures for re-exports in the trade returns are small it is possible that some of this was re-exported and registered mistakenly as Indian in the export returns.

In the returns of production there is, however, some evidence of progress of which the following table gives an idea. I have given figures from 1920-21, in which year the output of fine yarns was lower than it had been for 15 years:—

OUTPUT OF FINE YARN IN MILLIONS OF POUNDS.

					—All Indian Mills—		—Bombay Island—	
	31's-40's	Above 40's	Two-folds	31's-40's	31's-40's	Above 40's	31's-40's	Above 40's
1920-21	15	2	5	1	
1921-22	17	2	6	1	
1922-23	16	2	6	1	
1923-24	20	3	7	1	
1924-25	19	6	8	3	
1925-26	20	6	6	3	
1926-27	28	12	9	4	
1927-28	34	11	12	5	
1928-29	37	10	9	3	

STATEMENT SHOWING THE PRODUCTION OF YARN IN COTTON MILLS SITUATED IN THE CITY AND ISLAND
OF BOMBAY.

(Quantities are in pounds.)

Counts

Years: Particulars	1-10	11-20	21-24	25-30	32-36	37-40	41-44	45-50	51 & above	Total
1923—Warp	1,867,392	39,153,996	34,923,423	3,443,107	203,710	595,731	213,021	67,745	77,288	82,822,322 (a)
Weft	11,488,610	22,144,935	15,224,796	9,170,733	2,245,529	775,905	164,442	96,921	83,494	62,666,701 (b)
Reeling	33,631,197	45,499,849	4,921,436	881,604	411,956	422,372	22,679	—	—	88,604,660 (c)
1924—Warp	1,840,165	34,468,205	35,617,529	3,181,185	406,894	337,817	481,268	209,607	21,056	78,648,204 (d)
Weft	11,598,752	22,209,388	13,629,264	8,997,374	2,269,207	990,309	438,103	24,460	228,111	61,443,490 (e)
Reeling	34,026,751	42,575,910	5,193,642	684,777	392,210	595,987	612,697	91,007	32,456	87,535,042 (f)
1925—Warp	3,895,646	32,766,188	37,908,292	2,671,501	132,343	121,754	491,798	146,057	29,116	80,667,393 (g)
Weft	10,884,491	22,600,717	13,126,298	10,234,156	2,208,850	976,840	350,474	37,662	252,929	62,291,082 (h)
Reeling	38,278,845	39,402,928	3,790,696	276,884	231,710	258,490	471,476	31,828	59,410	88,766,067 (i)
1926—Warp	3,364,981	50,372,321	45,904,518	4,398,178	260,957	381,535	955,533	233,912	104,715	108,251,887 (j)
Weft	13,977,694	32,422,703	21,419,490	11,428,957	3,495,646	1,863,991	195,632	77,093	248,199	86,478,470 (k)
Reeling	51,820,614	40,002,896	4,182,341	478,528	476,725	433,894	794,062	80,420	155,384	103,652,742 (l)
1927—Warp	2,641,668	56,307,696	49,900,754	4,907,164	371,321	1,687,748	836,683	256,799	139,431	118,982,324 (m)
Weft	21,938,169	35,189,861	19,399,104	13,645,223	3,303,051	2,508,748	345,050	111,537	1,012,901	98,739,062 (n)
Reeling	39,731,182	35,777,571	6,640,834	954,919	495,243	705,302	1,432,652	103,553	266,185	90,690,781 (o)
1928—Warp	1,590,948	24,622,096	22,070,234	3,181,998	278,932	1,679,484	260,438	186,544	100,511	55,280,263 (p)
Weft	8,575,254	14,354,696	9,468,059	7,196,232	2,241,636	2,212,982	263,170	42,063	458,074	45,508,795 (q)
Reeling	20,235,902	15,346,060	2,064,250	254,189	213,082	264,966	758,203	65,669	252,374	41,390,840 (r)

NOTE.—(a) Includes 2,276,909 lbs. for which details are not available.

NOTE.—(j) Includes 2,275,237 lbs. for which details are not available.

(b)	1,207,876 lbs.	"	"	"	"	"	"	"	"	"
(c)	2,813,576 lbs.	"	"	"	"	"	"	"	"	"
(d)	2,083,478 lbs.	"	"	"	"	"	"	"	"	"
(e)	1,058,522 lbs.	"	"	"	"	"	"	"	"	"
(f)	3,329,605 lbs.	"	"	"	"	"	"	"	"	"
(g)	2,504,698 lbs.	"	"	"	"	"	"	"	"	"
(h)	1,618,655 lbs.	"	"	"	"	"	"	"	"	"
(i)	5,963,800 lbs.	"	"	"	"	"	"	"	"	"
(k)	1,249,065 lbs.	"	"	"	"	"	"	"	"	"
(l)	5,227,878 lbs.	"	"	"	"	"	"	"	"	"
(m)	2,033,060 lbs.	"	"	"	"	"	"	"	"	"
(n)	1,285,418 lbs.	"	"	"	"	"	"	"	"	"
(o)	4,583,340 lbs.	"	"	"	"	"	"	"	"	"
(p)	1,309,078 lbs.	"	"	"	"	"	"	"	"	"
(q)	696,629 lbs.	"	"	"	"	"	"	"	"	"
(r)	1,936,145 lbs.	"	"	"	"	"	"	"	"	"

The statement in the above table was supplied to me by the Bombay Mill Owners' Association, and from this it appears that a considerable part of their output of the finer yarns, particularly those of over 40's, are sold away from the mills and do not enter the weaving sheds, though it is possible that some part may be sold to other mills in Bombay and elsewhere."

YARNS ABOVE 18's WOVEN IN CERTAIN AHMEDABAD MILLS, IN
MILLIONS OF POUNDS.

	1924	1925	1926	1927	1928	1929 (7 months)
19's to 32's	97·8	97·5	92·8	91·9	90·1	86·4
33's to 45's	1·8	2·3	7·0	6·2	6·5	10·3
Above 45's	·4	·4	·2	1·8	2·6	2·8

The Extent of External Competition. General.

Mr. G. S. Hardy's recent report deals exhaustively with this question, and I quote the following pages from this most instructive evidence.

While the Bombay mill owners have insistently attributed a large part of their troubles to the fixation of the rupee at 1s. 6d., it is significant that whereas their gross output remained stationary during the three years 1921-22 to 1923-24, in which the rupee was pursuing a fluctuating but upward course, their output again began to rise steadily as soon as exchange was settled in the neighbourhood of 1s. 6d. In fact, while the output of the Bombay mills rose from 856 milyards in 1923-24 to 1,135 in 1926-27 and fell, owing to labour troubles, to 1,131 and 537 in the next two years, the output of other Indian mills rose from 847 milyards in 1923-24 to no less than 1,356 milyards in 1928-29, an increase of 60 per cent. in five years. Meanwhile, after a substantial recovery in imports during the period when exchange was slowly rising, labour troubles in the United Kingdom and the high price of American cotton caused a set-back in 1925-26 and recovery has been slow.

The most obvious features of the following table, so far as concerns the origin of imported goods, are the predominance of imports from the United Kingdom before the war, their subsequent decline and the rapid growth of imports from Japan. It will, however, be convenient first to refer briefly to the other countries which participate in the trade. The Netherlands, with large possessions in the East, have always been suppliers of cloth to Eastern markets but, except for a certain quantity of bleached goods, their contribution has consisted mainly of coloured cloths of a type worn by the Malays and also popular among certain classes on the eastern seaboard of the Bay of Bengal. Italian goods have almost exclusively been coloured goods of special types, though there is evidence that their range has recently begun to extend. From the United States of America the pre-war imports were mainly drills and jeans, but now consist largely of "fents," which form purely a waste-product trade. Imports from Switzerland are mainly of British cloths sent to Switzerland for mercerising or other forms of special finish, and the absence of figures in this column prior to 1910-11 is due to the fact that up to that time imports were recorded by

EXPORTS AND IMPORTS OF COTTON GOODS

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countries of shipment and not of consignment. Imports from China consist almost entirely of the products of Japanese-owned mills in that country, and for practical purposes may be treated as imports from Japan. The bulk of imports from "other countries" before the war came from Central Europe and included British cloth sent there for finishing. These trades disappeared on the outbreak of war, and have not shown much sign of resuscitation since.

GROSS IMPORTS BY COUNTRIES AND INDIAN PRODUCTION,
IN MILLIONS OF YARDS.

	United Kingdom	Holland	Italy	U.S.A.	Switzer- land	Japan	China	Others	Total Imports	Mill Production in India	Total
1899-1900	2,166	7	3	4	—	—	—	11	2,191	102	2,193
1900-01	1,972	9	3	9	—	—	—	10	2,003	—	—
1901-02	2,154	12	4	7	—	—	—	13	2,190	—	—
1902-03	2,071	12	3	8	—	—	—	13	2,107	—	—
1903-04	1,997	12	4	6	—	—	—	14	2,033	—	—
1904-05	2,251	13	4	4	—	—	—	16	2,288	159	2,442
1905-06	2,415	16	5	10	—	—	—	17	2,463	—	—
1906-07	2,276	16	5	8	—	—	—	13	2,318	—	—
1907-08	2,487	16	7	4	—	—	—	18	2,532	808	3,340
1908-09	1,941	22	5	9	—	—	—	17	1,993	824	2,817
1909-10	2,141	21	5	8	—	—	—	18	2,193	964	3,157
1910-11	2,252	22	8	8	6	—	—	12	2,308	1,047	3,355
1911-12	2,379	23	7	9	4	1	—	15	2,438	1,136	3,574
1912-13	2,942	26	12	16	5	6	—	16	3,023	1,220	4,243
1913-14	3,104	25	23	10	6	9	—	20	3,197	1,164	4,361
1914-15	2,378	21	10	12	3	16	—	6	2,446	1,135	3,581
1915-16	2,049	21	13	17	4	39	—	5	2,148	1,442	3,590
1916-17	1,786	14	14	11	3	100	1	5	1,934	1,578	3,512
1917-18	1,430	6	7	13	1	95	1	3	1,556	1,614	3,170
1918-19	867	1	1	11	1	238	—	3	1,122	1,450	2,572
1919-20	976	8	1	10	2	76	—	8	1,081	1,640	2,641
1920-21	1,292	13	10	13	4	170	1	7	1,510	1,581	3,091
1921-22	955	12	2	23	1	90	1	6	1,090	1,734	2,824
1922-23	1,453	13	2	8	3	108	3	3	1,593	1,726	3,319
1923-24	1,319	11	6	7	7	123	6	7	1,486	1,702	3,188
1924-25	1,614	12	10	9	7	155	5	11	1,823	1,970	3,793
1925-26	1,287	16	11	15	7	217	2	9	1,564	1,954	3,518
1926-27	1,467	20	17	16	12	244	2	10	1,788	2,259	4,047
1927-28	1,543	20	26	28	15	323	7	11	1,973	2,357	4,330
1928-29	1,457	20	38	30	11	357	13	11	1,937	1,893	3,830

The table displays clearly the advantage taken by the Japanese industry of war conditions. What it does not disclose is the large quantity of British goods imported from the United Kingdom into India in Japanese bottoms by Japanese business houses in 1918, when British merchants found the greatest difficulty in securing freight. The knowledge of the British trade acquired at this time has undoubtedly been of very great value to Japanese trade in the subsequent years. The figures of imports from Japan and the United Kingdom for the last 10 years are particularly interesting. The very high prices of American cotton in the years after the war brought cloth to a price at which there was a substantial falling-off in the Indian demand. The Lancashire mills for a long period worked on short time, but the Japanese industry, despite the strides it had made during the war, had not the reserves to face a period of depression with the same success as the British industry. Nor had their methods altogether inspired the Indian Market with confidence in the period immediately following the armistice, and it was not until 1926-27 that the volume of imports from Japan reached the 1918-19 figure. Subsequent expansion, however, has been rapid and shows every sign of continuing, while the trade with the United Kingdom has made no progress since 1922-23.

EXPORTS AND RE-EXPORTS OF PIECE GOODS, IN MILLIONS OF YARDS

	Re-exports				Exports			
	Grey	White	Coloured	Total	Grey	White	Coloured	Total
1919-20	38	19	32	89	74	2	121	197
1920-21	35	7	19	61	48	2	96	146
1921-22	49	9	16	74	24	1	136	161
1922-23	52	7	16	75	31	1	125	157
1923-24	41	7	13	61	34	1	130	165
1924-25	33	7	14	54	44	1	136	181
1925-26	16	7	12	35	37	1	127	165
1926-27	12	5	12	29	20	2	176	198
1927-28	16	5	13	34	18	1	149	168
1928-29	7	4	13	24	16	1	131	149

So long as Japan was dependent on transshipment at Bombay the Indian mills were able to compete, but in the last few years direct Japanese services to Aden, East Africa and the Persian Gulf have not only reduced the re-export trade considerably but have deprived the Bombay mills of the advantage they had in the matter of freight. In the coloured goods trade the Indian mills appear to have been able to hold their own.

IMPORTS OF GREY GOODS (ALL COUNTRIES).

	In Millions of Yards								In Rs. Lakhs	
	Dhutis, Saris, and Chaddars	Jaconets, including Mulls, Madapollams, Cambrics, etc.	Longcloth and shirtings	T-cloths and Domestic	Drills and Jeans	Sheetings	Unspecified	Total	Total	Total
1899-1900 ..	512	138	586	15	20	—	4	1,275	1,398	
1900-01 ..	459	152	540	15	25	—	1	1,192	1,435	
1901-02 ..	472	147	530	15	21	—	2	1,187	1,457	
1902-03 ..	498	130	612	17	25	—	2	1,284	1,546	
1903-04 ..	454	130	466	12	21	—	2	1,085	1,327	
1904-05 ..	530	131	518	12	19	—	—	1,210	1,638	
1905-06 ..	566	139	606	9	28	—	1	1,349	1,893	
1906-07 ..	504	132	625	13	23	—	2	1,299	1,870	
1907-08 ..	507	140	581	8	17	—	1	1,254	1,941	
1908-09 ..	464	100	452	7	18	—	2	1,043	1,519	
1909-10 ..	608	115	484	9	19	1	1	1,237	1,871	
1910-11 ..	527	117	464	4	17	—	1	1,130	1,769	
1911-12 ..	578	117	498	5	19	—	2	1,219	1,965	
1912-13 ..	728	142	622	10	29	2	2	1,535	2,511	
1913-14 ..	809	150	545	6	21	—	3	1,534	2,544	
1914-15 ..	666	111	515	5	19	1	3	1,320	2,129	
1915-16 ..	612	102	406	2	23	2	1	1,148	1,809	
1916-17 ..	522	83	185	—	21	35	1	847	1,687	
1917-18 ..	398	63	123	3	8	30	1	626	1,843	
1918-19 ..	304	49	160	3	14	54	—	584	2,359	
1919-20 ..	347	41	114	2	10	18	—	534	2,251	
1920-21 ..	292	39	182	3	18	46	—	580	2,645	
1921-22 ..	384	55	129	—	16	50	2	636	2,265	
1922-23 ..	507	84	280	1	14	45	—	931	3,044	
1923-24 ..	433	73	119	1	17	61	—	704	2,306	
1924-25 ..	492	89	207	1	17	39	1	846	2,849	
1925-26 ..	430	57	171	—	19	30	2	709	2,189	
1926-27 ..	471	73	169	1	15	18	1	748	1,962	
1927-28 ..	528	80	233	—	11	23	1	876	2,125	
1928-29 ..	488	79	252	—	12	7	1	839	2,019	
1929-30 (6 months) ..	229	29	161	—	6	8	—	433	—	

GREY (U.S.A.).

In Millions of Yards					In Rs. Lakhs
	Drills and Jeans	Sheetings	Longcloth and Shirtings	Total	Total
1899-1900	4	—	—	4	7
1900-01	8	—	—	8	15
1901-02	6	—	—	6	11
1902-03	7	—	—	7	13
1903-04	6	—	—	6	12
1904-05	4	—	—	4	10
1905-06	10	—	—	10	24
1906-07	8	—	—	8	18
1907-08	4	—	—	4	14
1908-09	8	—	—	8	18
1909-10	9	—	—	9	21
1910-11	8	—	—	8	21
1911-12	9	—	—	9	22
1912-13	15	—	—	15	39
1913-14	10	—	—	10	25
1914-15	9	—	—	9	23
1915-16	13	—	—	13	34
1916-17	7	—	—	7	24
1917-18	1	5	—	6	17
1918-19	1	—	—	1	2
1919-20	4	1	—	5	35
1920-21	4	4	—	8	51
1921-22	9	11	1	21	75
1922-23	3	1	—	4	19
1923-24	1	—	—	1	3
1924-25	2	—	—	2	14
1925-26	2	—	—	2	10
1926-27	2	—	—	2	10
1927-28	2	—	—	2	7
1928-29	1	—	—	1	6

GREY (CHINA AND JAPAN).

In Millions of Yards							In Rs. Lakhs	
	Dhutis, Saris, Jaconets, includ- Scarves, ing Mulls, Mada- and pollams, Chaddars Cambrics, etc.	Longcloth and shirtings	T-cloths and Domestics	Drills and Jeans	Sheet- ings	Unspeci- fied	Total	Total
1912-13	—	3	—	1	1	—	5	10
1913-14	—	5	—	2	—	—	7	14
1914-15	1	11	—	2	1	—	15	27
1915-16	3	24	—	6	2	—	35	61
1916-17	2	29	—	10	34	1	76	180
1917-18	1	40	2	6	25	—	74	250
1918-19	1	131	2	14	52	—	207	900
1919-20	2	38	—	4	16	—	63	290
1920-21	1	93	2	12	42 (1)	—	151 (1)	719 (2)
1921-22	—	41	—	7	36 (1)	—	84 (1)	339 (2)
1922-23	—	39	—	10	44 (3)	—	93 (3)	361 (9)
1923-24	—	26	—	16	60 (6)	—	102 (6)	387 (22)
1924-25	1	61 (1)	—	15	38 (4)	—	115 (5)	425 (17)
1925-26	14	84	—	16	30 (2)	1	145 (2)	468 (7)
1926-27	29	97	—	12	18 (2)	1	157 (2)	427 (4)
1927-28	34	157 (3)	—	9	22 (4)	—	222 (7)	562 (16)
1928-29	35	203 (12)	—	10	6 (1)	1	255 (13)	644 (23)
1929-30 (6 months)	24	149 (5)	—	5	8 (1)	—	186 (6)	—

N.B.—The above figures represent imports from Japan and China combined. The figures for China only are shown in brackets against the combined figures.

IMPORTS OF GREY DHOTIS

	From United Kingdom			From Japan	Total Imports	Production in Indian mills
	White	Others	Total			
1924-25	—	—	518	1	519	458
1925-26	—	—	446	14	460	516
1926-27	—	—	513	29	542	586
1927-28	74	452	523	24	557	616
1928-29	73	389	463	25	488	564
1929-30 (8 months)	59	166	205	24	229	—

To appreciate fully the situation in this branch of the trade one has to look beyond mere figures of quantity. As has already been observed, *dhotis* are not strictly mere goods; they are rather pieces or sets of pieces of apparel. Tradition has made Calcutta the principal market in these goods for the North of India, and Bombay-made *dhotis* are sold on the Calcutta market even for despatch to places like Amritsar and Peshawar. The bulk of the *dhoti* trade for the North of India is in pairs or sets of three in sizes not exceeding 25 ins. by 5 yards the unit. In Bombay the "chola" or set of four *dhoti* is occasionally met with, and there and in Madras, where plain unbordered cloth of various types often takes the place of the bordered *dhoti*, the fashionable waist-line is such as to necessitate an extra 5 ins. or 6 ins. of width. In Bombay, moreover, the white *dhoti* is more popular than the grey and some of the *dhotis* made in the Bombay mills in these wider dimensions for the local market are bleached. The total quantity is, however, very small. What particularly distinguishes the *dhoti* trade from other lines of business in mere goods is the necessity of picking in assortments, both of size and border and heading. Actually the wider borders which differentiate the *sari* from the *dhoti* only constitute a small proportion of the trade, since the grey-bordered *sari* is not nearly so universal among Hindu women as the *dhoti* among men, its place being often taken by "par-jamas," or by a silk or coloured cotton *sari*. Nevertheless, the wide-bordered *sari* affords much greater scope for variety of design than the *dhoti* proper, and the nature of the border and heading exerts a much greater influence on the price than with the narrow *dhoti* border. The *sari* border varies from 1 in. to as much as 4 ins. It may be a simple plainwoven stripe of coloured cotton, or it may be of "dobby" or other fancy weave. Again, artificial or real silk or gold thread may be used for the border, in which case the *sari* will only be assessed at 11 per cent. as cotton piece goods if the width covered by the extraneous material is less than one-fifth of the width of the cloth.

The great diversity of type among goods in this class greatly increases the difficulty of comparing the foreign with the indigenous product. This difficulty is further enhanced by the fact that it was found to be impossible, without disproportionate inconvenience to the trade, to obtain details of weights of *dhotis* when compiling the special record in Calcutta. Detailed weights are not usually quoted in invoices for *dhotis*, and where several varieties are packed in one bale individual weights can only be obtained by opening the bale and actually weighing the various

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types separately. Fortunately, however, it has been the custom in Calcutta for the past three years to record imports of *dhutis* under three heads, "shirting" *dhutis*, "Jaconet" *dhutis* and "mull" *dhutis*, according to the fineness of the yarn from which they are woven. The Jaconet *dhuti* has a warp from 41's to 50's, while the shirting *dhuti* is coarser than this, and the mull *dhuti* (which will include the "white yarn" *dhuti*) finer. The figures are as follows:—

CLASSIFIED IMPORTS OF GREY DHUTIS (CALCUTTA ONLY).

	United Kingdom				Japan			
	Shirting	Jaconet	Mull	Total	Shirting	Jaconet	Mull	Total
1926-27	98	251	101	450	23	1	3	27
1927-28	105	281	92	478	26	1	5	32
1928-29	88	230	109	427	29	1	2	32
1929-30 (6 months) ..	38	97	51	186	20	1	1	22

In present circumstances it may be assumed, taking 1927-28 figures as typical, that the Indian mills produce 542 milyards of coarse *dhutis*, of which type 35 milyards are imported; that there is an intermediate class with warps from 31's to 40's, comprising 56 milyards of local production and 131 milyards of imports, and a fine class containing 19 milyards of local and 426 milyards of imported cloth. The direct competition can therefore be displayed in tabular form thus:—

GREY DHUTIS. COMPETITION IN 1927-28.

Count of warp	Indian dhuties	Imported dhuties
Up to 30's	542	35
31's to 40's	56	96
Above 40's	19	426
Total	617	557

IMPORTS AND PRODUCTION OF GREY LONGCLOTH AND SHIRTINGS, IN MILLIONS OF YARDS.

	Imports				Production			Total Imports and Indian production
	United Kingdom	Japan and China	Other sources	Total	Bombay City	Other Mills	Total	
1907-08	581	—	—	581	159	48	207	788
1908-09	451	—	1	452	151	55	206	657
1909-10	482	—	2	484	174	70	244	728
1910-11	462	—	2	464	196	92	288	754
1911-12	497	—	1	498	219	94	315	811
1912-13	619	3	—	622	199	103	302	924
1913-14	540	5	—	545	190	102	292	837
1914-15	502	11	2	515	201	120	321	836
1915-16	382	24	—	406	269	150	419	825
1916-17	155	29	1	185	236	192	428	613
1917-18	83	40	—	123	297	154	451	574
1918-19	28	131	1	160	233	160	393	553
1919-20	76	38	—	114	256	189	445	559
1920-21	88	93	1	182	270	186	456	638
1921-22	87	41	1	129	312	175	487	616
1922-23	241	39	—	280	289	181	470	750
1923-24	93	26	—	119	279	164	443	562
1924-25	146	61	—	207	326	200	526	733
1925-26	87	84	—	171	307	214	521	692
1926-27	71	97	1	169	374	206	580	749
1927-28	76	157	—	233	378	242	620	853
1928-29	48	203	1	252	168	306	474	726
1929-30 (6 months) ..	12	119	—	161	—	—	—	—

Plain Grey Goods: Shirtings and Longcloth.

This is by far the most important single class of piece-goods to be considered. It now provides one-third of the total output in Bombay and one-fourth of the total Indian output. Before the war it accounted for one-fifth of the total imports from the United Kingdom, and now accounts for two-thirds of the imports from Japan. Finally, it is the class in which the most rapid and far-reaching developments are now taking place. The previous table gives a general conspectus of the history of the trade since Japan began to participate. It shows the loss of the United Kingdom trade during the war, its partial recovery and, finally, its almost complete surrender to Japan. The figures for China have been included in the table with those for Japan, as the imports from that source are practically all the produce of Japanese-controlled mills.

Plain Grey Goods: Sheetings, T-cloths and Domestics.

These three types of goods are classed together in the returns of production, and as the import of the two latter classes has recently been very small I propose to deal with the combined figures. A reference to the table will show that the import trade in T-cloths and Domestics fell to negligible proportions about 1916-17, when the import trade in sheetings first became appreciable. The former was a Manchester trade; the latter has been exclusively Japanese. The table below compares production in Bombay and elsewhere in India with imports over a period of 22 years.

IMPORTS AND PRODUCTION OF T-CLOTHS, DOMESTICS
AND SHEETINGS, IN MILLIONS OF YARDS.

			Production			Total imports plus production	
		Imports	Bombay City	Other Indian mills	Total		
1907-08	..	..	8	89	31	120	128
1908-09	f ..	..	7	93	31	124	131
1909-10	..	..	10	102	39	141	151
1910-11	..	..	4	98	41	139	143
1911-12	..	..	5	96	46	142	147
1912-13	..	..	12	93	55	148	160
1913-14	..	..	6	78	51	129	135
1914-15	..	..	6	84	53	134	140
1915-16	..	..	4	109	42	151	155
1916-17	..	..	35	145	47	192	227
1917-18	..	..	33	93	44	137	170
1918-19	..	..	57	65	46	111	168
1919-20	..	..	20	83	39	122	142
1920-21	..	..	49	69	28	97	146
1921-22	..	..	50	54	30	84	134
1922-23	..	..	46	48	33	81	127
1923-24	..	..	62	39	29	68	130
1924-25	..	..	40	45	32	77	117
1925-26	..	..	30	36	38	74	104
1926-27	..	..	19	49	44	93	112
1927-28	..	..	24	39	53	92	116
1928-29	..	..	7	18	57	75	82

The Trade Mission to the Near East and Africa in 1928, however, commented on the demand for grey sheetings in nearly all the

countries they visited, and in almost every market, though the Indian sheeting was known, the Japanese predominated. The falling-off in Japanese imports into India is no doubt partly to be accounted for by the establishment, since the war, of direct steamer services from Japan to destinations which had previously been served by re-export from Bombay. This is particularly true of Iraq and East Africa. It is therefore reasonable to suppose that so long as Japanese goods had to travel via Bombay the Bombay product stood some chance of competing in these markets. Even in the absence of exact figures it will be instructive to make a rough estimate of exports and re-exports and to compare it with the production figures. For this purpose I assume exports of "T-cloths and Domestics and Sheetings" to have been four-thirds of the actual figures for "T-cloths and Domestics." This credits sheetings with the greater part of the grey cloth exported under the "unspecified" head. In the re-export returns all grey goods are lumped together, and I propose to credit sheetings with two-thirds of the total. Neither estimate can be very far from the truth. The result is displayed in the following table:—

GREY SHEETINGS. EXPORTS AND RE-EXPORTS,
IN MILLIONS OF YARDS.

						Production		Total imports plus production	Nett quantity available for consumption
		Exports	Re-exports	Total	Imports	Bombay Island	Other mills		
1919-20	.. ..	41	26	67	20	83	39	142	85
1920-21	.. ..	33	23	56	49	69	28	146	90
1921-22	.. ..	12	33	45	50	54	30	134	89
1922-23	.. ..	13	35	48	46	48	33	127	79
1923-24	.. ..	16	28	44	62	39	29	130	86
1924-25	.. ..	23	22	45	40	45	32	117	72
1925-26	.. ..	17	11	28	30	36	38	104	76
1926-27	.. ..	1	8	9	19	49	41	112	103
1927-28	.. ..	1	11	12	24	39	53	116	104
1928-29	.. ..	—	—	—	7	18	57	82	82

IMPORTS AND PRODUCTION OF GREY DRILLS AND JEANS,
IN MILLIONS OF YARDS.

		Imports				Production			
		United Kingdom	Japan	U.S.A.	Total	Bombay	Other Indian Mills	Total Indian production	Total
1907-08	.. ..	12	—	5	17	10	12	22	39
1908-09	.. ..	9	—	9	18	11	14	25	43
1909-10	.. ..	10	—	9	19	10	12	22	41
1910-11	.. ..	9	—	8	17	12	14	26	43
1911-12	.. ..	10	—	9	19	14	14	28	47
1912-13	.. ..	12	1	15	29	15	15	30	59
1913-14	.. ..	10	2	10	21	15	13	28	49
1914-15	.. ..	8	2	9	19	18	13	31	50
1915-16	.. ..	4	6	13	23	30	16	46	69
1916-17	.. ..	4	10	7	21	36	21	57	78
1917-18	.. ..	1	6	1	8	56	23	79	87
1918-19	.. ..	—	14	—	14	33	21	54	68
1919-20	.. ..	1	4	4	10	50	31	81	91
1920-21	.. ..	1	12	4	18	46	28	74	92
1921-22	.. ..	—	7	9	16	36	24	60	76
1922-23	.. ..	1	10	3	14	32	24	56	70
1923-24	.. ..	—	16	1	17	33	22	55	92
1924-25	.. ..	—	15	2	17	50	27	77	94
1925-26	.. ..	1	16	2	19	38	46	84	103
1926-27	.. ..	1	12	2	15	50	30	80	95
1927-28	.. ..	—	9	2	11	59	32	91	102
1928-29	.. ..	—	10	1	12	38	38	76	88

Plain Grey Goods: Drills and Jeans.

There has been a healthy growth in the demand for these stout cloths, for the production of which Indian cotton is particularly well suited. The United Kingdom and the United States of America, formerly the principal suppliers of imported grey drills and jeans, have ceased to compete seriously and Japan is making no progress. In the steady growth of the Indian output the Bombay mills more than held their own up to 1927-28 and in the last three years the only appreciable change has been a slight fall in imports as compared with the previous three years.

IMPORTS OF WHITE (BLEACHED) GOODS—ALL COUNTRIES.

	In Millions of Yards										In Rs. Lakhs	
	Checks, Spots and Stripes	Dhotis, Saris, Scarves and Chaddars	Mull	Jaconets, Madapolams, Cambrics and Muslins	Nainsook	Longcloth and Shirtings	Lawns	Drills and Jeans	Lulls	Unspecified	Total	Total
1899-1900	7	64	93	33	161	62	+	5	+	20	445	354
1900-01	7	55	118	44	133	89	+	7	+	14	467	611
1901-02	12	59	133	52	209	89	+	6	+	20	580	784
1902-03	6	53	81	26	135	72	+	4	+	13	390	511
1903-04	6	55	102	32	182	67	+	4	+	18	466	621
1904-05	8	57	*	182	177	131	+	8	+	21	584	826
1905-06	5	59	*	140	229	113	+	9	+	17	573	847
1906-07	5	52	*	170	175	76	+	3	+	14	495	738
1907-08	10	80	*	200	248	156	+	6	3	32	733	1,182
1908-09	9	52	*	152	135	106	+	4	3	16	477	778
1909-10	9	58	*	142	166	94	+	4	2	18	493	768
1910-11	13	57	*	191	198	100	+	5	3	20	587	954
1911-12	12	64	*	174	192	156	+	8	4	20	630	1,097
1912-13	13	75	*	226	236	180	+	7	6	26	769	1,352
1913-14	16	107	*	308	205	115	+	6	8	28	793	1,438
1914-15	10	105	*	213	135	116	+	5	7	13	604	1,086
1915-16	13	53	*	176	171	163	+	7	11	18	611	1,068
1916-17	11	65	*	183	169	123	+	7	9	23	590	1,279
1916-17	11	65	*	183	169	123	+	7	9	23	590	1,279
1917-18	5	42	151	14	150	113	+	3	7	17	502	1,420
1918-19	1	36	129	4	27	66	6	4	2	12	287	1,312
1919-20	4	38	110	10	59	77	4	3	6	11	322	1,596
1920-21	9	36	94	12	122	109	9	6	13	12	422	2,190
1921-22	2	32	138	6	68	48	5	2	3	2	306	1,267
1922-23	6	45	159	7	91	69	9	3	6	7	402	1,501
1923-24	8	46	165	8	88	67	8	3	7	15	415	1,544
1924-25	11	70§	186	9	105	123	9	6	13	17	549	2,023
1925-26	7	73§	169	9	77	94	9	6	12	9	465	1,599
1926-27	12	114§	220	15	66	97	15	5	12	15	571	1,753
1927-28	14	72§	208	16	93	112	8	7	15	11	556	1,542
1928-29	13	43	243	15	77	123	8	6	18	8	554	1,534
1929-30 (6 months)	6	31	109	9	27	49	6	4	9	3	253	—

* Included with Jaconets, etc., from 1904-05 to 1916-17.

† Included with Jaconets, etc., up to 1917-18.

‡ Included with Jaconets, etc., up to 1906-07.

§ These are the figures given in the trade returns. The actual figures for each of these four years should probably be about 43.

WHITE (BLEACHED) BY COUNTRIES OF ORIGIN.

		United Kingdom	Nether- lands	Switzer- land	Japan	Others	Total
1899-1900	.. ..	439	1	2	-	3	445
1900-01	.. ..	462	2	2	—	1	467
1901-02	.. ..	574	2	2	—	2	580
1902-03	.. ..	383	3	2	—	2	390
1903-04	.. ..	458	4	2	—	2	466
1904-05	.. ..	575	4	3	—	2	584
1905-06	.. ..	562	6	2	—	3	573
1906-07	.. ..	486	4	2	—	3	495
1907-08	.. ..	722	6	3	—	2	733
1908-09	.. ..	466	7	3	—	1	477
1909-10	.. ..	483	6	2	—	2	493
1910-11	.. ..	576	6	3	—	2	587
1911-12	.. ..	618	7	2	—	3	630
1912-13	.. ..	756	9	3	—	1	769
1913-14	.. ..	781	8	3	—	1	793
1914-15	.. ..	596	7	1	—	-	604
1915-16	.. ..	601	7	2	1	1	611
1916-17	.. ..	582	3	1	3	1	590
1917-18	.. ..	496	2	—	3	1	502
1918-19	.. ..	275	—	-	10	2	287
1919-20	.. ..	314	4	—	3	1	322
1920-21	.. ..	409	6	2	4	1	422
1921-22	.. ..	299	4	—	2	1	306
1922-23	.. ..	395	3	1	2	1	402
1923-24	.. ..	403	4	5	2	1	415
1924-25	.. ..	533	5	5	5	1	549
1925-26	.. ..	446	6	6	5	2	465
1926-27	.. ..	550	6	9	3	3	571
1927-28	.. ..	527	8	12	6	3	556
1928-29	.. ..	525	8	9	5	7	554

White Goods.

The above two tables show imports of the various classes of white goods for the past 30 years by classes and by countries of origin. The principal comment to be made on the first table is that it lacks any really interesting feature. It reflects the trade-booms of 1907-08 and of 1912-13 and 1913-14. It reflects also war and post-war difficulties but with less intensity than the other main groups, but apart from these features the total of the trade and its distribution over the various heads is much what it was 30 years ago. Bleached cloth is mainly a luxury of the wealthier classes. The demand for it is somewhat sensitive to fluctuations in price, and it is perhaps justifiable to assume that owing to the rise in prices the class which habitually buys white cloth, despite a general increase in population, is no more numerous than it was 30 years ago.

The Indian output of plain bleached goods is negligible. It would be surprising were it otherwise. The "white" trade is essentially a trade in fine goods, and except for small items like drills and jeans and sheetings the quantity of imported white goods

made from yarns below 50's must be very small indeed. The average price of imported white drills is 60 per cent. higher than the price of greys, and they are all of a fine quality which does not compete with bleached Indian drills.

IMPORTS OF COLOURED (PRINTED, DYED AND WOVEN) GOODS ALL COUNTRIES.

In Millions of Yards											In Rs. Lakhs
	Cambries, Muslins, Madapollams, Mulls and Jaconets	Chaddars, Dhutis, Sarıs, Scarves and Lungis	Drills and Jeans	Prints and Chintz	Shirtings	Twills	Flannels and Flannelettes	Checks, Spots and Stripes	Unspecified	Total	Total
1899-1900	103	44	6	161	73	*	—	†	85	472	659
1900-01	59	49	3	109	51	*	—	†	70	343	579
1901-02	84	48	6	152	62	*	—	†	71	423	673
1902-03	84	56	6	156	65	*	—	†	67	434	660
1903-04	79	67	6	171	65	*	—	†	93	481	799
1904-05	74	65	5	182	63	*	—	†	105	494	909
1905-06	86	74	7	185	80	*	—	†	110	542	955
1906-07	89	73	6	192	71	*	—	†	94	525	956
1907-08	73	66	9	200	62	14	—	†	120	544	1,080
1908-09	65	81	11	128	71	25	—	†	92	473	925
1909-10	82	72	15	122	76	21	—	†	75	463	868
1910-11	113	83	17	152	105	25	—	†	97	596	1,176
1911-12	101	96	21	135	87	27	—	†	122	589	1,226
1912-13	102	133	23	179	108	30	—	11	117	682	1,417
1913-14	114	115	30	210	153	31	—	11	159	832	1,786
1914-15	72	100	20	105	77	18	—	10	93	495	1,046
1915-16	41	57	20	86	56	12	—	10	77	359	855
1916-17	49	64	20	107	64	17	—	17	117	455	1,508
1917-18	51	41	23	101	61	23	10	11	75	396	1,614
1918-19	29	22	17	70	25	11	4	5	44	227	1,182

* Included with Cambries, etc., up to 1906-07.

† Separately recorded from 1912-13.

‡ Separately recorded from 1917-18.

IMPORTS OF COLOURED (PRINTED) GOODS—ALL COUNTRIES.

In Millions of Yards													In Rs. Lakhs	
	Cambries, including Mulls, Madapollams, Muslins and Jaconets	Checks, Spots and Stripes	Drills and Jeans	Flannels and Flannelettes	Lungis and Dhutis	Prints and Chintz	Saris and Scarves	Sateens	Shirtings	Twills	Woven Lungis and Sarongs	Unspecified	Total	Total
1919-20	21	1	3	—	6	47	12	*	12	3	—	12	117	597
1920-21	41	3	13	12	6	114	33	*	39	10	12	21	284	1,608
1921-22	14	—	7	—	3	29	15	*	8	3	12	4	85	425
1922-23	24	1	11	1	6	45	17	*	9	—	4	9	129	625
1923-24	31	1	11	1	4	61	30	*	17	12	4	15	182	814
1924-25	29	12	15	12	5	58	27	*	20	8	4	19	189	812
1925-26	22	1	16	4	6	54	26	4	16	7	4	7	167	655
1926-27	18	12	18	8	7	47	24	4	24	13	4	8	177	613
1927-28	23	12	31	12	5	68	30	5	29	15	6	9	235	653
1928-29	20	12	32	12	6	74	30	4	33	19	8	4	244	741
1929-30 (6 months)	1	1	24	12	4	31	13	1	17	5	4	12	111	—

* Separately recorded from 1925-26.

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IMPORTS OF COLOURED (DYED) GOODS—ALL COUNTRIES.

In Millions of Yards												In Rs. Lakhs	
	Cambries, including Madapolams, Muslins, Mulls and Jaconets	Checks, Spots and Stripes	Drills and Jeans	Flannels and Flannelettes	Lungis and Dhutis	Prints and Chintz	Saris and Scarves	Sateens and Italians	Shirtings	Twills	Unspecified	Total	Total
1919-1920 ..	6	2	1	—	—	2	2	—	13	4	26	56	401
1920-21 ..	13	7	4	3	—	1	1	—	25	19	61	134	1,152
1921-22 ..	3	1	2	1	—	—	—	—	15	2	11	35	209
1922-23 ..	11	3	2	—	—	—	—	—	25	6	31	78	398
1923-24 ..	12	4	2	1	1	—	—	—	25	9	56	110	612
1924-25 ..	14	8	4	2	1	1	1	—	31	10	71	142	754
1925-26 ..	12	6	3	4	1	2	1	13	29	10	28	107	488
1926-27 ..	23	10	7	5	—	3	3	29	40	10	29	157	617
1927-28 ..	24	10	10	4	—	2	3	25	39	13	28	158	561
1928-29 ..	27	11	7	4	—	1	3	28	37	18	18	156	562
1929-30 .. (6 months)	15	6	5	3	—	1	1	8	25	7	7	78	—

IMPORTS OF COLOURED (WOVEN) GOODS—ALL COUNTRIES.

In Millions of Yards												In Rs. Lakhs	
	Cambries, including Muslins, Madapolams, Mulls and Jaconets	Checks, Spots and Stripes	Drills and Jeans	Flannels and Flannelettes	Dhutus, Lungis and Sarongs	Saris and Scarves	Shirtings	Twills	Velvet and Velveteens	Coatings and Trouserings	Unspecified	Total	Total
1919-20 ..	2	2	2	—	5	—	2	1	*	*	19	35	277
1920-21 ..	1	5	2	4	7	2	7	3	*	*	39	71	695
1921-22 ..	—	2	1	—	6	—	2	1	*	*	6	19	127
1922-23 ..	1	3	2	1	8	2	4	1	*	*	17	38	237
1923-24 ..	1	3	3	2	5	3	9	1	*	*	27	55	343
1924-25 ..	2	5	6	2	5	3	18	4	*	*	31	76	436
1925-26 ..	1	4	13	4	9	3	27	3	1	7	20	92	449
1926-27 ..	2	6	20	5	12	6	27	6	1	11	18	114	492
1927-28 ..	3	7	23	4	9	5	20	12	2	9	17	111	438
1928-29 ..	2	10	18	3	4	3	26	12	2	11	16	107	432
1929-30 .. (6 months)	1	6	18	1	4	1	11	5	1	3	9	60	—

* Separately recorded from 1925-26.

IMPORTS OF COLOURED GOODS FROM ITALY.

P = printed, D = dyed, W = woven. In Millions of Yards												In Rs. Lakhs
	Drills and Jeans	Coatings and Trouserings	Italian cloth and sateens	Shirtings	Flannels and Flannellettes	Prints and Chintz	Twills	Unspecified			Total	& Total
1899-1900 ..	—	—	—	—	—	—	—	—	—	—	—	8
1900-01 ..	—	—	—	—	—	—	—	—	—	—	—	9
1901-02 ..	—	—	—	—	—	—	—	—	—	—	—	10
1902-03 ..	—	—	—	—	—	—	—	—	—	—	—	8
1903-04 ..	—	—	—	—	—	—	—	—	—	—	—	10
1904-05 ..	—	—	—	—	—	—	—	—	—	—	3	13
1905-06 ..	1	—	—	—	—	—	—	—	—	—	3	16
1906-07 ..	1	—	—	—	—	—	—	—	—	—	3	14
1907-08 ..	—	—	—	—	—	—	—	—	—	4	6	24
1908-09 ..	—	—	—	—	—	—	—	—	—	3	4	18
1909-10 ..	—	—	—	—	—	—	—	—	—	3	5	20
1910-11 ..	—	—	—	—	—	—	—	—	—	5	7	31
1911-12 ..	—	—	—	—	—	—	—	—	—	5	7	30
1912-13 ..	—	—	—	—	—	—	1	—	—	8	11	47
1913-14 ..	—	—	—	—	—	1	2	—	—	17	22	85
1914-15 ..	—	—	—	—	—	—	—	—	—	9	9	40
1915-16 ..	1	—	—	—	—	—	1	—	—	11	13	62
1916-17 ..	—	—	—	—	—	—	—	—	—	14	14	105
1917-18 ..	—	—	—	—	—	—	—	—	—	7	7	65
1918-19 ..	—	—	—	—	—	—	—	—	—	1	1	17
1919-20 ..	—	W	D	P W	P D	P	P D	P W D			1	16
1920-21 ..	—	—	—	—	—	—	—	0 1 0			10	123
1921-22 ..	—	—	—	—	—	—	—	1 5 4			2	18
1922-23 ..	—	—	—	—	—	—	—	1 1 0			2	16
1923-24 ..	—	—	—	—	—	—	—	1 2 3			6	—
1924-25 ..	—	—	—	—	1 1	1	—	0 3 4			10	73
1925-26 ..	—	3	—	—	1 1	—	2 0	0 2 2			10	58
1926-27 ..	—	3	—	—	4 1	1	2 1	0 1 1			16	70
1927-28 ..	—	3	1	1 1	7 1	2	6 1	0 1 1			25	85
1928-29 ..	—	3	1	1 1	92 1	2	10 2	1 1 2			36	122

IMPORTS OF COLOURED GOODS FROM HOLLAND.

In Millions of Yards					In Rs. Lakhs
	Lungis	Shirtings	Unspecified	Total	Total
1899-1900 ..	5	—	—	5	8
1900-01 ..	6	—	1	7	13
1901-02 ..	10	—	—	10	18
1902-03 ..	8	—	1	9	15
1903-04 ..	9	—	—	9	19
1904-05 ..	8	—	—	9	22
1905-06 ..	9	—	1	10	23
1906-07 ..	11	—	—	11	28
1907-08 ..	9	—	—	10	26
1908-09 ..	13	—	1	14	40
1909-10 ..	13	—	1	14	37
1910-11 ..	13	—	1	14	42
1911-12 ..	12	—	2	14	43
1912-13 ..	14	—	3	17	51
1913-14 ..	14	—	2	16	51
1914-15 ..	12	—	1	13	40
1915-16 ..	13	—	1	14	46
1916-17 ..	10	—	1	11	45
1917-18 ..	4	—	1	5	26
1918-19 ..	1	—	—	1	7
1919-20 ..	3	—	—	3	27
1920-21 ..	7	—	1	8	79
1921-22 ..	6	—	1	8	53
1922-23 ..	7	—	3	10	67
1923-24 ..	4	—	2	16	44
1924-25 ..	4	1	1	6	40
1925-26 ..	6	2	2	10	63
1926-27 ..	8	3	3	14	75
1927-28 ..	7	3	2	12	61
1928-29 ..	7	3	1	11	55

Coloured Goods.

As in other branches of the piece-goods trade the United Kingdom throughout the 30-year period has been the principal source of supply, though Holland has been a steady if small contributor. Imports from Japan were on a much smaller scale during and immediately after the war than imports of Japanese grey goods, but more attention has been paid by the Japanese industry to the coloured branch of the trade during the last five years. Imports from Italy were first of appreciable magnitude in 1913-14. They fell away in the latter part of the war period, to be renewed only in the last five years. The diversity of her trade in the past two years, even more than its magnitude, suggests that Italy is a competitor to be taken seriously in the near future.

Dhutis and Lungis. The coloured dhuti can hardly be differentiated from the lungi, and coloured goods of this class are mainly produced for the Burma market, with a certain small consumption in Bengal. Of the 1927-28 imports, 17 milyards out of 20 went to Rangoon and the remainder to Calcutta. Holland and the United Kingdom supplied 9 milyards each, and the rest, though shipped from the Straits and Netherlands East Indies, were produced in one or other of those countries. The total export of coloured goods by sea from Bombay to Rangoon amounted to 16 milyards, and even if the whole of this were lungis, which is improbable, it is clear that the Bombay trade is not suffering from competition in the Bengal market. In Burma the cotton lungi is in competition with the more expensive but more durable silk lungi. There has been no appreciable change in the trade in the past three years.

Drills and Jeans.—There has been a very considerable increase in the imports of printed and woven drills and jeans in the past ten years. Three years' figures for production in the Bombay Presidency suggest clearly that the local output is suffering from competition, though in the absence of earlier figures it is not possible to say how long it has been falling. The Tariff Board quoted 99 and 88 milyards as the output in All-India in 1924-25 and 1925-26. The Bombay Presidency figures for the next three years are 86, 62 and 34 milyards respectively, while imports (woven and printed) for the same five years were 21, 29, 38, 54 and 50 milyards respectively. The failure of the Indian mills to retain command of this trade is the more striking in the face of their relative success with grey drills, and is due to the fact that coloured drills are, as a rule, considerably finer than grey drills. The Japanese import figures for the five years were 6, 12, 21, 31 and 38 milyards. Their first appearance in the printed drill trade was in 1926-27, and such has been their success that imports of printed drills from the United Kingdom fell from 20 milyards in 1927-28 to 11 in 1928-29, and 3 in the first half of 1929-30.

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Dyed greys.—The recent progress of trade in these goods is exhibited in the following table:—

IMPORTS AND PRODUCTION OF DYED GOODS.

Imports						Production in India
	Shirtings	Checks, Spots and Stripes	Saris and Scarves	Twills	Drills and Jeans	
1924-25 ..	31	8	1	10	4	54
1925-26 ..	29	6	1	10	3	49
1926-27 ..	40	10	3	10	7	70
1927-28 ..	39	10	3	13	10	75
1928-29 ..	37	11	3	18	7	76

N.B.—Figures for the first two years are for All-India and for the last three for Bombay Presidency only.

Striped Saris and Susis.—This somewhat indefinite head is less easy to deal with than some others. The word susi is applied somewhat vaguely to a large variety of cloths, and it would require a prolonged enquiry from mill to mill to find out exactly what cloth is returned under this head and what under the head "Others."

As in the case of striped drills and jeans, the Japanese industry at first tried direct competition with the woven Indian product, but after a certain initial success they have made no headway for the past three years and are turning their attention to the printed shirting, and for the first half of 1929-30 imports from Japan of printed and woven shirtings respectively were 7 and 6 milyards as compared with 6 and 16 in the complete year 1928-29. The United Kingdom trade, which again is restricted mainly to the fine qualities, is fairly steady.

There seem to be, therefore, strong reasons for believing that the severity of competition depends not on the nature of the weave nor even on the count of the yarn employed, except in so far as the fineness of the yarn affects the price.

Here of course there is no question of competition: their use adds to the attractiveness of the cotton cloth, and helps to sell it; but some of the finer classes of cotton cloth, particularly saris and lungis, are in direct competition with silk goods of the same class.

So far the extracts from the "Hardy" Report. This document and the other evidence submitted in this book have forced upon the writer the conclusion that it may take some years yet before the Indian mills will be able to supply their market almost entirely with their own manufactured cotton goods, but that time is sure to come, perhaps in the distant future. We, in Europe, must realize that all the textile machinery that has been and is being sent to India is bought for the *one* purpose of producing the goods which we have been in the habit of supplying so far to India. When India obtained her fiscal freedom Lancashire's largest customer for cotton goods was turned into a competitor who will every year become

more and more formidable, and even to-day India is already in such a position that she need not be apprehensive of the competition of her first teacher. Lancashire's only chance for the near future is in fine goods, but even these are, for the time being at all events, in disrepute. Whatever may happen politically in India, she will maintain her fiscal autonomy, and the sooner the old suppliers of cotton goods reconcile themselves to this fact the more harmonious will be their relations with India.

It is unfortunately certain that those mills in Europe that have specialized for India, if unable to find new markets, will have to suffer severe losses through this evolution, which, after all, is the natural course of events, and should have been foreseen at the time when Great Britain bestowed fiscal freedom on India in return for war services.

The *Indian Custom House Tariff Changes on Cotton Goods* were :—

1894: 5 per cent. *ad valorem* duty on all imports; 5 per cent. excise duty on all yarn of 20's and above spun in power mills of India.

1896: $3\frac{1}{2}$ per cent. *ad valorem* import duty and $3\frac{1}{2}$ per cent. excise duty on woven goods. Yarns free.

1917-18: Import duty raised from $3\frac{1}{2}$ per cent. to $7\frac{1}{2}$ per cent.; excise duty remained at $3\frac{1}{2}$ per cent.

1921-22: Import duty raised from $7\frac{1}{2}$ per cent. to 11 per cent.; excise duty remained at $3\frac{1}{2}$ per cent.

5 per cent. import duty on cotton yarns, with a minimum of $\frac{1}{2}$ anna per lb.

1925, December 1: Abolition of all excise duty.

1930, April: The Cotton Textile Industry (Protection) Act :—

(A) Plain grey that is not bleached or dyed in the piece, if imported in pieces, which either are without woven headings or contain any length of more than nine yards which is not divided by transverse woven headings :—

(i) Of British manufacture: *Ad valorem* 15 per cent., or $3\frac{1}{2}$ annas per lb., whichever is higher.

(ii) Not British manufacture: *Ad valorem* 20 per cent., or $3\frac{1}{2}$ annas per lb., whichever is higher.

(B) Others :—

(i) Of British manufacture: *Ad valorem* 15 per cent.

(ii) Not British manufacture: *Ad valorem* 20 per cent.

The changes made shall have effect only up to the 31st day of March, 1933.





APPENDIX

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LIST OF COTTON MILLS IN INDIA

Statement of the Bombay Millowners' Association per August 31, 1929

NAMES OF MILLS		SITUATION OF MILLS	Total amount of Capital paid up Rs.	No. of Spindles			No of Looms	Average No. of Hands employed daily	REMARKS		
with Names of Agents or Owners and Office Addresses				Mule	Ring	Total					
BOMBAY ISLAND											
1.	Apollo Mills, Ltd. [Messrs. E. D. Sassoon & Co., Ltd., Agents, 15, Dougall Road, Ballard Estate, Fort, Bombay]	DeLisle Road	2,500,000	1,966	46,712	48,678	896	1,148			
2.	Assur Veerjee Mills, Ltd. [Messrs. H. F. Commissariat & Co., Agents, Commissariat Building, Hornby Road, Fort, Bombay]	Sun Mills Road, Lr. Parel	1,324,215	14,540	27,152	41,692	660	1,314			
3.	Atlas Mills Co., Ltd. (formerly Emperor Edward Spinning & Manufacturing Co., Ltd.) [Messrs. B. D. Petit Sons & Co., Agents, 7-11, Elphinstone Circle, Fort, Bombay]	Reay Road, Mazgaon	532,600	—	46,452	46,452	1,383	878			
4.	Bombay Cotton Manufacturing Co., Ltd. [Messrs. Hormusji Sons & Co., Agents, Commissariat Building, Hornby Road, Fort, Bombay]	Kala Chowki Road, Chinchpoojy.	2,240,770	1,152	31,912	33,064	791	1,293			
5.	Bombay Dyeing & Mfg. Co., Ltd. (Spring Mills) [Messrs. Nowrosji Wadia & Sons, Agents, Neville House, Graham Road, Ballard Estate, Fort, Bombay]	Naigaum Road, Dadar	6,274,500 {	—	109,848	109,848	3,116	3,020			
6.		Elphinstone Road, Parel.. .. .		800	70,976	71,776	1,733	2,615			
7.	Bombay Industrial Mills Co., Ltd. (formerly Lord Reay Mills) [Messrs. W. H. Brady & Co., Ltd., Managing Agents, Royal Insurance Buildings, 12-14, Churchgate St., Fort, Bombay]	Ferguson Rd., Lower Parel	1,799,875	4,448	19,584	24,032	564	998			
8.	Bradbury Mills, Ltd. [Messrs. Currimbhoy Ebrahim & Sons, Ltd., Agents, 12-14, Outram Road, Fort, Bombay]	Ripon Road, Jacob Circle	2,485,000	11,512	25,152	36,664	848	1,188			
9.	Century Spinning & Manufacturing Co., Ltd. (Century Mill) [Messrs. C. N. Wadia & Co., Agents, Neville House, Graham Road, Ballard Estate, Fort, Bombay]	Elphinstone Road, Parel.. .. .	1,850,000 {	—	51,661	51,661	2,552	2,206	1,500 additional ring spindles in course of erection.		
10.		" " " " (Zenith Mill)		12,788	55,736	68,524	578	4,392			
11.	Colaba Land & Mill Co., Ltd. [Messrs. W. H. Brady & Co., Ltd., Managing Agents, Royal Insurance Buildings, 12-14, Churchgate St., Fort, Bombay]	Victoria Bunder, Colaba	2,800,000 {	—	32,848	32,848	698	1,646			
12.	Jehangir Wadia Mill [Messrs. W. H. Brady & Co., Ltd., Managing Agents, Royal Insurance Buildings, 12-14, Churchgate St., Fort, Bombay]	" " " "		—	11,376	11,376	—	462			
13.	Coorla Spinning & Weaving Co., Ltd. [Messrs. Cowasjee Jehangir & Co., Ltd., Secretaries, Treasurers and Agents, 23, Readymoney Mansion, Churchgate Street, Fort, Bombay]	Coorla (Thana District)	1,300,000	1,404	26,164	27,568	719	1,359			
14.	Crescent Mills Co., Ltd. [Messrs. Currimbhoy Ebrahim & Sons, Ltd., Agents, Currimbhoy House, Outram Road, Fort, Bombay]	Ferguson Rd., Lower Parel	1,500,000	9,600	35,088	44,688	1,054	1,137			
15.	Crown Spinning & Manufacturing Co., Ltd. (formerly Dhuni Mills) [Messrs. Purshotam Vitthaladas & Co., Secretaries, Treasurers and Agents, 16, Apollo Street, Fort, Bombay]	New Parbhadevi Rd., Parel	200,000	6,480	35,288	41,768	968	1,236			

16.	Currimbhoy Mills Co., Ltd. (including Mahomedbhoy Mills) [Messrs. Currimbhoy Ebrahim & Sons, Ltd., Agents, 12-14, Outram Road, Fort, Bombay]	..	DeLisle Road	..	2,200,000	17,344	65,096	82,440	1,013	1,844
17.	David Mills Co., Ltd., No. 1 ..	..	Carroll Road, Parel	..	900,000	—	41,184	41,184	—	620
18.	"Messrs. E. D. Sassoon & Co., Ltd., Agents, 15, Dougall Road, Ballard Estate, Fort, Bombay]	..	"	..	1,500,000	17,466	22,984	40,450	1,222	1,133
19.	Dawn Mills Co., Ltd. ..	..	Ferguson Rd., Lower Parel	..	800,000	7,920	31,688	39,608	—	1,381
20.	Ebrahimbhoy Pabanev Mills Co., Ltd. [Messrs. Sassoon J. David & Co., Ltd., Agents, 143, Esplanade Road, Fort, Bombay]	..	DeLisle Road	..	2,000,000	18,176	39,704	57,880	1,054	1,481
21.	E. D. Sassoon United Mills, Ltd. (Alexandra Mill) ..	..	Ghorupdeo Rd., Chinch- poogly	..	25,000,000	—	36,176	36,176	770	1,422
22.	" (E. D. Sassoon Mill)	..	"	..		10,758	75,868	86,626	843	934
23.	" (Jacob Sassoon Mill)	..	Suparibaug Road, Parel ..	..		6,160	89,216	95,376	2,362	2,067
24.	" (Manchester Mills, formerly Hong- kong Mills)	..	Chinchpoogly Cross Lane, Parel	..		4,384	21,060	25,444	800	600
25.	" (Rachel Sassoon Mill)	..	Chinchpoogly Road	..		—	—	—	2,179	1,105
26.	"Messrs. E. D. Sassoon & Co., Ltd., Agents, 15, Dougall Road, Ballard Estate, Fort, Bombay]	..	Ferguson Road, Parel	..	1,700,000	29,256	16,152	45,408	928	1,001
27.	Edward Sassoon Mills, Ltd. ..	..	Elphinstone Road, Pare	..	5,000,000	14,008	35,056	49,064	764	1,223
28.	Fazulbhoy Mills, Ltd. ..	..	DeLisle Road	..	1,500,000	—	52,296	52,296	1,960	1,781
29.	Finlay Mills, Ltd. ..	..	Government Gate Road, Parel	..	4,000,000	—	46,072	46,072	812	1,038
30.	Framjee Petit Spinning & Manufacturing Co., Ltd. [Messrs. Dinshaw Manockjee Petit, Sons & Co., Agents, 359, Hornby Road, Fort, Bombay]	..	Reay Road, Mazagon	..	1,250,000	—	32,584	32,584	929	1,583
31.	Gold Mohur Mills, Ltd. ..	..	Old Dadar Road, Dadar ..	..	2,500,000	—	42,472	42,472	1,040	1,387
32.	Hindustani Spinning and Weaving Mills Co., Ltd. ..	..	Ripon Road, Byculla, Jacob Circle.	..	1,200,000	2,784	39,280	42,064	1,150	1,740
33.	Indian Manufacturing Co., Ltd. [Messrs. Damodar Thackersey Mooljee & Co., Agents, 16, Apollo Street, Fort, Bombay]	..	Ripon Rd., Jacob Circle ..	..	900,000	—	44,016	44,016	1,122	1,836
34.	Jam Manufacturing Co., Ltd., No. 1 ..	..	Lalbag, Parel	..	1,200,000	—	31,924	31,924	944	1,215
35.	"No. 2 (formerly Birla Mills, Ltd., No. 2 Agents, 4, Dalal Street, Fort, Bombay)	..	Sewri Road	..		1,040	20,836	21,876	455	754
36.	Jamshed Manufacturing Co., Ltd. [Messrs. Hormusji Ardeshir & Son, Agents, Commisariat Building, Hornby Road, Fort, Bombay]	..	Ferguson Rd., Lt. Parel ..	..	1,332,100	1,368	31,084	32,452	520	1,039
Total carried forward					78,089,060	195,354	1,440,697	1,636,051	37,427	49,076

54.	New City of Bombay Manufacturing Co., Ltd. [Messrs. W. H. Brady & Co., Ltd., Agents, Royal Insurance Building, 12-14, Churchgate Street, Fort, Bombay]	Albert Rd., Chinchpoogly	600,000	—	43,128	43,128	416	1,096
55.	New Great Eastern Spinning & Weaving Co., Ltd. [Messrs. W. H. Brady & Co., Ltd., Secretaries and Agents, Royal Insurance Building, 12-14, Churchgate St., Fort, Bombay]	Parel Road, Chinchpoogly	1,500,000 { 800,000 }	14,520	35,148	49,668	1,035	1,578
56.	† New Islam Mills [Hajee Alimahomed Hajee Cassum, Owner, Suparibaug Road, Parel, Bombay, No. 13]	Suparibaug Road, Parel..	—	2,048	17,604	19,652	560	— Not working.
57.	New Kaiser-i-Hind Spinning & Weaving Co., Ltd. [Messrs. Vusunjee Munjee & Co., Agents, 15a, Elphinstone Circle, Fort, Bombay]	Gorupedo Road, Chinchpoogly	900,000	936	49,216	50,152	1,228	1,459
58.	Pearl Mills, Ltd. [Messrs. Currimbhoy Ebrahim & Sons, Ltd., Agents, 12-14, Outram Road, Fort, Bombay]	DeLisle Road	2,000,000	—	53,820	53,820	1,760	1,462
59.	Phoenix Mills, Ltd. (formerly Britannia Mills) [Messrs. Ramnarain Harnandrai & Sons, Agents, 143, Esplanade Road, Fort, Bombay]	Ferguson Rd., Lr. Parel ..	800,000	12,644	39,984	52,628	696	1,927
60.	Prabhat Mills, Ltd. (formerly Alliance Cotton Mfg. Co., Ltd.) [Messrs. R. D. Tata & Co., Ltd., Agents, Bombay House, Bruce Road, Fort, Bombay]	Tardeo	1,000,000	1,500	26,616	23,116	592	750
61.	Pralhad Mills, Ltd. (formerly Planet Mills) [Messrs. Partapji Narsingirji & Co., Agents, Gresham Building, Esplanade Road, Fort, Bombay]	Ferguson Rd., Lr. Parel ..	1,701,000	2,486	29,100	31,586	929	1,354
62.	Premier Mills, Ltd. [Messrs. Currimbhoy Ebrahim & Sons, Ltd., Agents, 12-14, Outram Road, Bombay]	"	1,999,880	—	14,892	14,892	432	615
63.	Presidency Mills Co., Ltd. [Messrs. Ragavji Maganlal & Co., Agents, 19, Bank Street, Fort, Bombay]	"	1,200,000	1,140	29,404	30,544	840	1,315
64.	Raghuvanshi Mills, Ltd. (formerly Kilachand Mills, Ltd.) [Messrs. Ranchoddas Khinji & Co., Agents, Office on mill premises]	Haines Road, Mahaluxmi	1,000,000	12,022	28,112	40,134	—	869
65.	Raja Bahadur Motilal Bombay Mills, Ltd. (formerly Raja Bahadur Motilal [Pitty Mills]) [Messrs. Govindlal & Co., Managing Agents, 58-64, Custom House Road, Fort, Bombay]	"	1,521,000	—	18,908	18,908	—	{ Mill closed from February, 1923.
66.	Ruby Mills, Ltd. (formerly Sorab Mills) [Messrs. Hormusji & Co., Agents, Commissariat Building, Hornby Road, Fort, Bombay]	Woolleur Mill Gully, Lady Jamshedji Road, Dadar	1,200,000	—	14,748	14,748	454	915
67.	Sassoon Spinning & Weaving Co., Ltd. [Messrs. David Sassoon & Co., Ltd., Agents, 59, Forbes Street, Fort, Bombay]	Mount Estate, Mazagon ..	22,500	2,224	58,016	60,240	1,254	1,912
68.	Satya Mill, Ltd. (formerly Globe Manufacturing Co., Ltd.) [Messrs. James Finlay & Co., Agents, Chartered Bank Building, Fort, Bombay]	DeLisle Road	1,200,000	1,008	28,096	29,104	792	912
69.	Sewree Cotton Mills, Ltd. (formerly Shree Luxmi Mill) [Messrs. Jivandas Vallabdas & Co., Agents, Albert Building, Hornby Road, Fort, Bombay]	Sewri Cross Road ..	300,000	1,880	8,464	10,344	—	253
Total carried forward			125,965,315	349,030	2,603,645	2,952,675	64,691	89,966

* The Capital of Mill No. 52 is included in the Share Capital of Mysore Spinning & Manufacturing Co., Ltd., Mysore (vide Part II under Mills in Mysore State).

† Proprietary concerns.

LIST OF COTTON MILLS IN INDIA—continued.

	NAMES OF MILLS with Names of Agents or Owners and Office Addresses	SITUATION OF MILLS	Total amount of Capital paid up Rs.	No. of Spindles			No. of employed Looms daily	Average No. of Hands	REMARKS
				Mule	Ring	Total			
Bombay Island—Continued.									
70.	Simplex Mills Co., Ltd. [Messrs. Allen Bros. & Co. (Bombay), Ltd., Agents, Commerce House, Ballard Estate, Fort, Bombay]	.. .. .	125,965,315	349,030	2,603,645	2,952,675	64,691	89,966	
71.	Sir Shapurji Broacha Mills, Ltd. (Connaught Mill)	Clerk Rd., Jacob Circle, Byculla.	2,250,000	936	37,203	38,144	1,357	2,116	
72.	" " " (Empress Mill)	DeLisle Road	7,749,600	2,232	95,052	97,284	1,123	2,660	
73.	" " " (New Empress Mill) [Messrs. Mathradas Cocculdas & Co., Agents, DeLisle Road, Chinchipoogly, Bombay]	.. .. .						
74.	Standard Mills Co., Ltd. (in vol. liquidation) [Messrs. Mafatal Gagalbhai & Navinchandra Mafatal, Liquidators, Kustom Building, 29, Churchgate Street, Fort, Bombay]	Parbhadevi Road, Lower Mahim	1,200,000	3,960	40,576	44,536	1,179	1,027	In vol. liquidation
75.	Svadeshi Mills Co., Ltd. [Messrs. Tata Sons, Ltd., Agents, Bombay House, 24, Bruce Road, Fort, Bombay]	Coorla	2,000,000	—	79,300	79,300	2,433	3,509	Machinery of Mill No. 2 re- moved to Mill No. 1 at Kurla. Mill No. 2 closed since Mar. 31, 1928
76.	Swann Mills Ltd. [Messrs. James Finlay & Co., Ltd., Agents, Chartered Bank Buildings, Fort, Bombay]	Sewree	2,400,000	1,022	30,428	31,450	604	954	
77.	Tata Mills, Ltd. [Messrs. Tata Sons, Ltd., Agents, Bombay House, 24, Bruce Road, Fort, Bombay]	Dadar Road	1,498,550	—	63,248	63,248	1,800	2,401	
78.	Toyo Pudar Cotton Mills, Ltd. (formerly Diamond Spg. and Wvg. Co., Ltd.) [Messrs. Toyo Menka Kaisha, Ltd., Managing Agents, Kitab Mahal, 192, Hornby Road, Fort, Bombay]	De Lisle Road	2,000,000	—	31,992	31,992	765	919	
79.	Union Mills, Ltd. [Messrs. David Sassoon & Co., Ltd., Secretaries, Treasurers and Agents, 59, Forbes Street, Fort, Bombay]	De Lisle Road	500,000	5,480	32,696	38,176	885	1,150	
80.	Victoria Mills, Ltd. [Messrs. Mangaldas Mehta & Co., Secretaries, Treasurers and Agents, Mubarak Menzil Apollo Street, Fort, Bombay]	Gandevi Road	800,000	—	28,868	28,868	556	815	
81.	Western India Spinning and Manufacturing Co., Ltd. [Messrs. Thackersey Mooljee Sons & Co., Agents, 16, Apollo Street, Fort, Bombay]	Kalachowki Rd., Chinch- poogly	1,200,000	5,208	36,552	41,760	977	1,193	
Total			147,563,465	367,868	3,079,565	3,447,433	76,375	106,710	

BOMBAY PRESIDENCY

		Near the village of Kokhra, Ahmedabad	945,900	13,752	13,752	436	{ Will start work on October 11, 1929 }
1.	Bhalakia Mills Co., Ltd. [Messrs. Chaudulal & Co., Ltd., Agents, Office on Mill premises]	.. .. .	..	..	..	..	..
2.	Lalbhai Tricunlal Mills [Messrs. Chinubhai Lalbhai & Bros., Ltd., Agents, Ahmedabad]	.. .. .	..	..	..	..	..
3.	+ Maharashtra Mills, Barsi, Ltd. [Messrs. Mande Falfale & Co., Secretaries & Agents, Hanmant Road, Barsi Town]	.. .. .	..	..	..	..	..
4.	Maharawana Mills, Ltd. [Messrs. Nanji Kalidas Mehta, Porbandar]	.. .. .	..	..	..	..	..
5.	+ Sholapur Udyoga Mills, Ltd. [Messrs. M. Allafi & Co., Managing Agents, Phalthan Galli, Mangalwar Peth, Sholapur]	.. .. .	..	..	..	..	..
6.	Shree Bahucharaji Mills Co., Ltd. [Messrs. Chhotabhai Raojibhai & Co., Babucharaji Road, Baroda]	.. .. .	200,000	..	..	10	..
7.	Vijaya Mills Co., Ltd. [Messrs. Haridas Achartal & Co., Naroda Road, Ahmedabad]	.. .. .	..	..	..	..	..
8.	Vikram Mills, Ltd. [Messrs. Ramanlal Lallubhai & Bros., Agents, Railwayapura Post, Ahmedabad]	.. .. .	500,000	..	21,800	520	{ Will start work on Nov. 1, 1929 }
	Total	..	1,645,900	..	35,552	966	..

CENTRAL INDIA

	Dacca	Palta, E. B. Railway, near Calcutta	Total
1. Luxminaravan Cotton Mills, Ltd. [Messrs. National Agency, Agents, 30, Lvall Street, Dacca]	.. .. .	.. .. .	.. .. .
2. Mahaluxmi Cotton Mills, Ltd. [Messrs. Dhutt Biswas & Co., Managing Agents, 49, Harrison Road, Calcutta]	.. .. .	.. .. .	.. .. .
	1,300,000	—	1,300,000
	12,000	—	12,000
	300	—	300

	Near Morar Road, Gwalior Station	Rutlam (C. India)	Total
1. †Gwalior Spinning and Weaving Mills Co., Ltd. [Messrs. Joshi & Co., Agent, Patankar Bazar, Jamkhelkar's Wada, Gwalior]	.. .. .	.. .. .	.. .. .
2. †Hira Mills, Ltd. [Mr. R. C. Jall, Managing Director, c/o Rajkumar Mills, Ltd., Indore]	.. .. .	.. .. .	.. .. .
3. †Rutlam Bombay United Spg. & Wvg. Co., Ltd. [M. Patel, Esq., Provisional Manager, 27, Forbes Street, Fort, Bombay]	.. .. .	.. .. .	.. .. .
	216,000	—	216,000
	—	—	—
	25	275	300

* **The average number of hands employed** daily is considerably less than normal, owing to strikes. This figure is arrived at by individual mills by adding together the number of hands **actually** working on each day the mill was open between **September 1, 1928, and August 31, 1929**, and **dividing** the result by **310**, i.e., the number of days on which the mills would have been working had there been no strikes or stoppages of work on days other than the official holidays prescribed by the Association.

† Statement not received. ‡ Figures taken from last year's statement. † Native States.

LIST OF COTTON MILLS IN INDIA—continued.

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APPENDIX

NAMES OF MILLS		SITUATION OF MILLS	Total amount of Capital paid up	No. of Spindles			No. of Looms	Average No. of Hands employed daily	REMARKS		
with Names of Agents or Owners and Office Addresses				Mule	Ring	Total					
BOMBAY PRESIDENCY											
(Other than those in the Island of Bombay)											
1.	Ahmedabad Advance Mills, Ltd. [Messrs. Tata, Sons, Ltd., Agents, Bombay House, 24, Bruce Road, Fort, Bombay]	Shahi-Bag Rd., outside Delhi Gate, Ahmedabad	1,000,000	—	30,692	30,692	602	1,090			
2.	Ahmedabad Astodia Manufacturing Co., Ltd. [Messrs. Desai Girdharlal Amratlal & Co., Agents, Office on mill premises]	Outside Astodia Gate, Ahmedabad.	505,000	—	16,384	16,384	264	565			
3.	Ahmedabad Cotton & Waste Mfg. Co., Ltd. ... [Messrs. Dhirajlal Chunilal & Bros., Secs., Treas. and Agents, Railwaypura, Post No. 2, Ahmedabad]	Dudheshwar Rd. Ahmedabad.	{ 75,125 74,875 250,000 }	1,056	19,240	20,296	216	643			
4.	Ahmedabad Cotton Manufacturing Co., Ltd. [Messrs. Amratlal Damodardas & Co., Agents, Office on mill premises]	Outside Sarangpur Gate, Ahmedabad.	500,000	—	28,800	28,800	688	1,203			
5.	Ahmedabad Fine Spinning & Weaving Co., Ltd. [Messrs. The Cotton Textile Syndicate, Lessees' Office on mill premises]	Gomtipur Road, Ahmedabad.	280,000	—	—	—	228	200	{ Mill started working from Oct. 21, 1929.		
6.	Ahmedabad Ginning & Manufacturing Co., Ltd. [Messrs. Madhowlal Ranchhodlal & Co., Agents, Office on mill premises]	Railway Suburb, Ahmedabad.	1,050,000	—	65,516	65,516	1,705	3,062			
7.	Ahmedabad Industrial Mills Co., Ltd. [Messrs. Kalidas Lalbhai Mehta & Co., Ltd., Agents, Office on mill premises]	Gomtipur Road, Ahmedabad.	484,000	—	19,520	19,520	559	828			
8.	Ahmedabad Jubilee Spinning & Manufacturing Co., Ltd. ... [Messrs. Chimanlal Nagindas & Co., Treasurers and Agents, Office on mill premises]	Outside Dariapur Gate, P.O. Ry. Pura Ahmedabad 2.	1,000,000	5,120	30,888	36,008	846	1,864			
9.	Ahmedabad Jupiter Spinning, Weaving & Manufacturing Co., Ltd. [Messrs. Fulchand Govindlal & Co., Ltd., Agents, Office on mill premises]	Dudheshwar Rd., Ahmedabad.	847,460	—	9,028	9,028	388	500			
10.	*Ahmedabad Kaiser-i-Hind Mills Co., Ltd. (formerly Ahmedabad Merchants' Spinning Mills Co., Ltd.) [Messrs. Ramanlal Kaniyalal & Co., Agents, Office on mill premises]	Outside Raipur Gate, Ahmedabad.	500,000	—	23,300	23,300	396	—	{ Not working since 1927.		
11.	Ahmedabad Laxmi Cotton Mills Co., Ltd. [Messrs. Jayantilal Amratlal & Co., Agents, Office on mill premises]	Outside Raipur Gate, Ahmedabad.	500,000	—	34,100	34,100	—	1,048			
12.	Ahmedabad Manufacturing & Calico Printing Co., Ltd. ... [Messrs. Karamchand Premchand & Co., Agents, Office on mill premises]	Outside Jamalpur Gate, Ahmedabad.	2,000,000	—	68,412	68,412	1,626	2,127			
13.	Ahmedabad New Cotton Mills Co., Ltd. [Messrs. Ranchhodlal Girdharlal & Co., Ltd., Agents, Office on mill premises]	Kankaria Road, outside Raipur Gate, Ahmedabad.	500,000	—	28,516	28,516	716	1,265			
14.	Ahmedabad New Standard Mills Co., Ltd. (formerly Ahmedabad New Edward Mill Co., Ltd.) [Messrs. Amratlal Kalidas & Co., Managing Agents, Office on mill premises]	Near Saraspur Gate, Ry. Pura Post, Ahmedabad.	800,000	—	17,712	17,712	432	781			

LIST OF COTTON MILLS

15.	Ahmedabad New Textile Mills Co., Ltd., No. 1	Outside Raipur Gate, Ahmedabad.	—	21,148	21,148	432	1,647 506	
16.	(formerly Javeri Spg. & Mfg. Co., Ltd.) [Messrs. Naranlal Jivanlal & Co., Agents, Post Box No. 30, Ahmedabad]	No. 2	..	" "	—	14,760	14,760	506		
17.	Ahmedabad Sarangpur Mills Co., Ltd. [Messrs. Himatlal Motilal & Co., Agents, outside Raipur Gate, Ahmedabad]	..	..	" "	—	24,800	24,800	480
18.	Ahmedabad Shri Ramkrishna Mills Co., Ltd. [Messrs. Chimanlal Maneklal & Co., Secretaries, Treasurers and Agents, Gomtipur Road, Ahmedabad]	..	..	Gomtipur Rd., Ahmedabad	—	—	—	408
19.	Ahmedabad Spinning & Weaving Co., Ltd. [Messrs. Runchhodlal Chhotatal & Co., Agents, Office on mill premises]	..	..	Shahapur, Ahmedabad	—	32,372	32,372	842
20.	Aruna Mills, Ltd. [Messrs. P. M. Hutheesing & Sons, Ltd., Agents, Office on mill premises]	Naroda Road	—	20,884	20,884	576		{ Started work on Aug. 10, 1929.
21.	Arvodaya Ginning & Mfg. Co., Ltd. (formerly Ahmedabad Vyapar Ootejack Spinning & Mfg. Co., Ltd.) [Messrs. Mangaldas & Brother, Secs., Treasurers and Agents, Office on mill premises]	..	..	Asarva Road, Ahmedabad	—	36,128	36,128	751
22.	Aryodaya Spinning & Weaving Co., Ltd. (Nos. 1 and 2) [Messrs. Mangaldas & Balabhai Co., Agents, Office on mill premises]	..	..	Asarva Road, Ahmedabad	—	45,120	45,120	1,262
23.	Asarwa Mills (formerly Hitwardhak Cotton Mills Co., Ltd.) [F. E. Dinshaw, Esq., Mortgagee in possession, Asarva Road, Post, Kalupur, Ahmedabad]	..	..	Asarva Road, Ahmedabad	—	21,716	21,716	458
24.	Asoka Mills, Ltd., and Reduced [Messrs. Lalbhai Dalpatbhai & Co., Agents, Pankore's Naka, Ahmedabad]	..	..	Naroda Road, Ahmedabad	—	31,824	31,824	936
25.	† Baroda Spinning & Weaving Co., Ltd. (Block Nos. 1 and 2) [Messrs. Javereband Laxmichand & Co., Secretaries, Treasurers and Agents, Office on mill premises]	..	..	Pani Gate, near Bhadar, Baroda.	—	27,656	27,656	551
26.	Barsi Spinning & Weaving Mills, Ltd. [Messrs. Desai, Sons & Co., Secretaries, Treasurers and Agents, 78, Frere Road, Fort, Bombay]	..	..	Barsi Town (District Shopapur).	—	9,640	9,640	230
27.	Becharadas Spinning & Weaving Mills Co., Ltd. [Messrs. Durgaprasad S. Laskari & Co., Agents, Office on mill premises]	..	..	Raikhad, Ahmedabad	—	18,156	18,156	414
28.	Bhagirath S. W. & Manufacturing Co., Ltd. [Messrs. Bhagirath Ramchandra & Co., Agents, Jalgaon]	..	..	Jalgaon, East Kandesh	—	7,200	7,200	211
29.	Bharatkhand Cotton Mills Co., Ltd. [Messrs. Moolchand Jeykishandas & Co., Secs., Treasurers and Agents, Office on mill premises]	..	..	Asarva Road, Railway-pura Post, Ahmedabad.	—	22,092	22,092	573
30.	Bharatkhand Textile Manufacturing Co., Ltd., No. 1	Camp Road, Ahmedabad	{ 850,000 }	22,544	22,544	518	1,295	
31.	" [Messrs. Jivanlal Girdharlal & Co., Secretaries, Treasurers and Agents, Post Box No. 30, Ahmedabad]	No. 2	..	" "						—	11,696	11,696	360
Total carried forward					6,176	759,844	766,020	18,174		29,886

* Statement not received. Figures taken from last year's statement.

† Native States and Foreign Territory

LIST OF COTTON MILLS IN INDIA—continued.

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APPENDIX

LIST OF COTTON MILLS IN INDIA—continued.									
with Names of Agents or Owners and Office Addresses									
NAMES OF MILLS									
Bombay Presidency—Continued.									
Lakhshmi Cotton Manufacturing Co., Ltd. Secretaries and Agents, [The Bombay Co., Ltd., Secretaries, 9, Wallace Street, Fort, Bombay]									
63.	†Lankapathi Weaving Works . . . . .	..	..	..	..	..	..	..	..
64.	†Lankapathi Weaving Works . . . . .	..	..	..	..	..	..	..	..
65.	Lokamanya Mills, Barsi, Ltd. . . . .	..	..	..	..	..	..	..	..
66.	†Maharaja Mills Co., Ltd. . . . .	..	..	..	..	..	..	..	..
67.	Maneckchowk & Ahmedabad Mfg. Co., Ltd., Nos. 1 and 2 . . . . .	..	..	..	..	..	..	..	..
68.	Manecklal Harilal Spinning & Mfg. Co., Ltd. . . . .	..	..	..	..	..	..	..	..
69.*†	Manor Mill . . . . .	..	..	..	..	..	..	..	..
70.	Marsden Spinning & Manufacturing Co., Ltd. . . . .	..	..	..	..	..	..	..	..
71.	Monogram Mills Co., Ltd. . . . .	..	..	..	..	..	..	..	..
72.	Motilal Hirabhai Spinning, Weaving & Mfg. Co., Ltd. . . . .	..	..	..	..	..	..	..	..
73.	Nagri Mills Co., Ltd. . . . .	..	..	..	..	..	..	..	..
74.	†Narayandas Chunilal Cotton Spg. & Wvg. Mills (formerly Gadag Cotton Spinning & Weaving Mills). . . . .	..	..	..	..	..	..	..	..
75.	Narsinggirji Manufacturing Co., Ltd. . . . .	..	..	..	..	..	..	..	..
76.	National Mills Co., Ltd. . . . .	..	..	..	..	..	..	..	..
77.*†	Nawab of Cambay Mills Co., Ltd. . . . .	..	..	..	..	..	..	..	..
78.	†New Baroda Mills Co., Ltd. . . . .	..	..	..	..	..	..	..	..

No.	Name of the mill	Address	Capital	Value added	Production	Employment	Remarks
79.	New Commercial Mills Co., Ltd. [Messrs. Triennial Bogilal & Co., Ltd., Agents, Office on mill premises]	Naroda Road, Ahmedabad	525,000	—	14,224	396	— { Started work on June 17, 1929
80.	+ New Darbhanga Mills (formerly Darbhanga Spg. & Wvg. Mills, Ltd. [Messrs. Sitalprasad Karagprasad, Managing Agents, 31-31-1, Burtolla Street, Barabazar, Calcutta])	Opp. Ry. Station, Navsari	—	5,400	15,104	472	695 { Mule spindles not working.
81.	+ New Jehangir Vakil Mills Co., Ltd. (formerly Venishunker Cotton Mills Co., Ltd.)	Bhavnagar	350,000	—	27,492	727	1,190
82.	New Manekchok Spinning & Weaving Co., Ltd. [Mr. Lalbahai Trikamal, Agent, Office on mill premises]	Outside Dariapur Gate, Railwaypura, Ahmedabad.	525,000	—	27,896	656	1,200
83.	New Pratap Spg., Weaving & Mfg. Co., Ltd. [Messrs. Motilal Maneckchand & Sons, Agents, Office on mill premises]	Dhulia, W. Khandesh	2,751,200	—	25,648	432	1,315 { 2,000 ring spindles in course of erection.
84.	New Rajpur Mills Co., Ltd. (formerly Rajpur Mill, Ltd.)	Gomtipur Rd., Ahmedabad	210,500	—	—	226	191
85.	New Shorrock Spinning & Manufacturing Co., Ltd. (formerly Nadiad Swadeshi Spinning, Weaving & Manufacturing Co., Ltd.) [Messrs. Mafatal Chandulal & Co., Secretaries, Treasurers and Agents, Asarva Road, Railwaypura Post, Ahmedabad]	Nadiad, Dist. Kaira	325,000	—	39,764	898	1,717
86.	New Swadeshi Mills of Ahmedabad, Ltd. (formerly Ahmedabad Swadeshi Spinning and Mfg. Co., Ltd.) [Messrs. Mamraj Sheonarain, Secretaries, Treasurers and Agents, Office on mill premises]	Naroda Road, Ahmedabad	582,325	—	25,824	682	1,038
87.	Patel Mills Co., Ltd. (formerly Gomtipur Spinning, Weaving & Manufacturing Co., Ltd.) [Messrs. Dhirajlal Chunilal & Co., Agents, Latif Building, Revdi Bazar, Railwaypura Post, No. 2, Ahmedabad]	Gomtipur Rd., Ahmedabad	192,250	468	11,720	—	284
88.	+ Petlad Bulakhidas Mills Co., Ltd. [Messrs. Motilal Kashandas & Co., Secs., Treasurers and Agents, Station Road, Petlad]	Near Station Road, Petlad	947,300	—	19,216	—	595
89.	Pratap Spg., Wvg. & Mfg. Co., Ltd. [Messrs. Motilal Maneckchand & Co., Agents, Office on mill premises]	Amalner, East Khandeish	1,500,000	432	37,480	960	2,302
90.	Purshotan Spinning & Mfg. Co., Ltd. [Messrs. Munsukbbhai Bhagubhai & Co., Agents, Railwaypura Post, Ahmedabad]	Outside Raipur Gate, Ahmedabad.	555,375	—	25,600	480	967
91.	Raipur Manufacturing Co., Ltd. [Messrs. Lalbahai Dalpatbhai & Co., Agents, Office on mill premises]	Outside Saraspur Gate, Ahmedabad.	500,000	—	36,000	860	1,425
92.	Raja Bahadur Motilal Poona Mills, Ltd. (formerly Poona Cotton & Silk Manufacturing Co., Ltd.) [Messrs. Govindlal & Co., Mg. Agents, 58-64, Custom House Road, Fort, Bombay]	Near Ry. Station, Poona	2,421,000	—	17,028	475	— { Resumed working in Aug. 1929
93.††	Rajkot State Cotton Mills [Rajkot State]	Karansinhji Cross Road, Karanpura, Rajkot (Kathiawar).	—	—	7,200	147	350
Total carried forward			69,919,267	22,458	2,044,222	42,918	80,846

* Statement not received. Figures taken from last year's statement.

+ Native States and Foreign Territory.

Proprietary concerns.

Bombay Presidency--Continued.

[illegible]

		Shahupuri, Kolhapur, S.M.C.	—	442	14,254	14,696	160	679	
111.†	Shri Shahu Chhatrapati Mills [H. H. The Chhatrapati Maharaja Saheb of Kolhapur, Owner, Shahupuri, Kolhapur.]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
112.	Shri Vivekanand Mills, Ltd. [Messrs. Nanubhai Maneklal & Co., Agents, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
113.	†Siddhpur Mills Co., Ltd. [Messrs. Maganlal Parbhudas & Co., Agents, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
114.	Silver Cotton Mills Co., Ltd. [Messrs. Gopalbhai Balabhai & Co., Secs., Treasurers and Agents, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
115.	Surat Cotton Spinning & Weaving Mills, Ltd. [Mr. Mafatlal Gagalbhai, Managing Director, 29, Churchgate Street, Fort, Bombay]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
116.	Surat Industrial Mills Co., Ltd. [The Maharaja of Darbanga, Proprietor, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
117.	*Surat Weaving Mills, Ltd. [Messrs. M. N. Hatimbhoy & Co., Secs., Treas. and Agents, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
118.	Suryaprakash Weaving Factory [Mr. Dayaram Harkisondas Chenti, Proprietor, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
119.	†Suryapur Mills Co., Ltd. [Messrs. Madhavje Thackersey & Co., Proprietors, Bruce Street, Bombay]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
120.	Tapidas Govanram Khaddar Factory [Mr. Motiram Tapidas Hathiwala, Proprietor, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
121.	Tikekar Textile Mill, Ltd. [Mr. L. V. Tikekar, Secretary, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
122.	Universal Cotton Mills Co., Ltd. (formerly Ahmedabad Silk & Cotton Mfg. Co., Ltd.) [Messrs. U. P. Maniar and H. D. Saheba, Liquidators, Desai Pole, Khadia, Ahmedabad]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
123.	†Valabh Weaving Mills Co. [Messrs. Chhaganlal Zaverdas, Proprietors, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
124.†	Vyenkatesh Rangatantu Mills [Mr. V. K. Datar, Owner, Office on mill premises]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
125.	†Vijay Weaving Works [Messrs. Shah Madhavlal Bhogilal, Owners, Revdi Bazar, Cross Lane, Railwaypura Post, Ahmedabad]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
126.	Vishnu Cotton Mill, Ltd. [The Bombay Co., Ltd., Secretaries, Treasurers and Agents, 9, Wallace Street, Fort, Bombay]	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Total carried forward			91,043,974	35,544	2,514,876	2,550,420	55,395	105,852	

* Statement not received. Figures taken from last year's statement.

† Native States and Foreign Territory.

‡ Proprietary concerns.

Not working.
Spindles de-
stroyed by fire.
Mill not work-
ing from Oct.,
1925.

In liquidation.
Not working.

CENTRAL PROVINCES

1.	Bengal-Nagpur Cotton Mills, Ltd. [Messrs. Shaw, Wallace & Co., Managing Agents, Post Box No. 70, 4, Bankshall Street, Calcutta]	Raj-Nandgaon, C.P.	1,200,000	—	31,652	31,652	625	2,059
2.	Burhanpur Tapti Mill, Ltd. [Messrs. Cowasji Dinshaw & Brothers, Secretaries, Treasurers and Agents, 121, Meadows Street, Fort, Bombay]	Burhanpur, Lal Bag, Nimar District, C.P.	1,200,000	416	24,156	24,572	497	1,572
3.	Central India Spinning, Weaving & Mfg. Co., Ltd. (Empress Mills) [Messrs. Tata Sons, Ltd., Agents, Bombay House, 24, Bruce Street, Fort, Bombay]	Nagpur, C.P.	9,687,500	—	100,656	100,656	2,196	7,429
4.	Medel Mills, Nagpur, Ltd. [Messrs. Bansilal Abirchand Dadabhai & Co., Agents, Lloyd Bldg., Graham Road, Ballard Estate, Fort, Bombay]	Unrer Rd., Nagpur, C.P.	9,334,250	—	52,408	52,408	1,020	3,200
5.	Pulgaon Cotton Spinning, Weaving & Mfg. Co., Ltd. [Mr. A. V. Datar (Secretary & Manager), office on mill premises]	Pulgaon, Dist. Wardha, C.P.	999,250	5,952	12,384	18,336	225	919
6.	* Rai Bahadur Bansilal Abirchand Spinning and Weaving Mill [Rai Bahadur Sir Biseserdass Daga, Kt., & Bros. (Private Owners), Victoria Rd., Civil Lines, Sir Kasturchand Buildings, Nagpur, C.P.]	Hingunghat, Dist. Wardha, C.P.	—	—	31,276	31,276	394	1,583
7.	* Rai Sahab Rakchand Mohota Spinning & Weaving Mill [Seth Mathuradas Mohota, M.L.C. and Gopaladas Mohota (Private Owners), Hingunghat]	" "	—	—	21,672	21,672	413	1,423
8.	Raja Goculdas Mills, Ltd. (formerly Gokuldass Bullubhdass Cotton Manufacturing Co., Ltd.) [Messrs. Mangaldas Mehta & Co., Agents, Mubarak Manzil, Apollo Street, Fort, Bombay]	Ranital, Jubbulpore, C.P.	600,000	—	17,440	17,440	407	830
Total				6,368	291,644	298,012	5,777	19,020

HYDERABAD (NIZAM'S TERRITORY)

1.	† Aurungabad Mills, Ltd. [Messrs. Doraswami Iyer & Co., Agents, 52, Victoria Buildings, Fort, Bombay]	Aurungabad, Deccan	642,000	8,580	7,476	16,056	218	682
2.	† Dewan Bahadur Rangopal Mills, Ltd. [Messrs. Lachminarain Rangopal & Son, Ltd., Agents, 25, St. John's Road, Secunderabad]	Elichigudda, Hyderabad (Deccan)	2,998,000	—	16,376	16,376	303	638
3.	† Hyderabad (Deccan) Spinning and Weaving Co., Ltd. [Messrs. Ramannah Bloomiah & Venkata Kristniah, Secs., Treas. & Agents, Ewart House, Tamarind Lane, Fort, Bombay]	Hyderabad, Deccan	70,000	—	17,520	17,520	275	—
4.	† Mahaboob Shahi Kulburga Mills Co., Ltd. [Messrs. Davaram Surajmal Lahoti, Agents, 133, Prendergast Road, Secunderabad (Deccan)]	Gulbarga, Deccan	593,000	—	28,864	28,864	395	1,286
5.	† Osinanshahi Mills, Ltd. [Messrs. Currimbhoy Ebrahim & Sons, Ltd., Agents, 12-14, Outram Road, Fort, Bombay]	Nanded (Nizam's Dominions)	3,750,000	—	24,708	24,708	429	1,235
Total				8,580	94,944	103,524	1,620	3,841

* Statement not received. Figures taken from last year's statement.

† Native States and Foreign Territory.

‡ Proprietary concern.

{ Mill not working from Feb. 1, 1928

	Bowrah, Dist. Howrah, Bengal	1,800,000	46,672	—	1,460
3. Bowrah Cotton Mills Co., Ltd. [Messrs. Kettlewell, Bullen & Co., Ltd., Agents, 21, Strand Road, Calcutta]					
4. Dhakeswari Cotton Mills, Ltd. [Messrs. A. B. Guha, R. M. Basak and S. K. Basu, Managing Directors, 70, Patuatolly, Dacca]					
5. Dunbar Mills, Ltd., No. 1	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
6. " " 2	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
7. " " 3	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
8. " " 4	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
[Messrs. Kettlewell, Bullen & Co., Secs., 21, Strand Rd., Calcutta]					
9. Kesoram Cotton Mills, Ltd. (formerly Allied Cotton & Dye Works, Ltd.)	42, Garden Reach Road, Calcutta	8,000,000	1,440	74,448	1,750 3,960
[Messrs. Birla Bros., Ltd., Agents, 8, Royal Exchange Place, Calcutta]					
10. Mohini Mills, Ltd.	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
[Messrs. Chakravarti, Sons & Co., Managing Agents, Mohini Babu's Road, Kushtia]					
11. New Ring Mill Co., Ltd.	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
[Messrs. Kettlewell, Bullen & Co., Ltd., Agents, 21, Strand Road, Calcutta]					
12. Rampooria Cotton Mills Co. (formerly Shri Narsing Cotton Mill)	Serampore, Mohesh, E. I. Ry. (Bengal)	—	—	324	312
[Messrs. Hazarimall Heeralal, Owners, 148, Cotton St., Calcutta]					
13. Shree Radha Krishna Cotton Mills No. 1 (formerly Goosery Cotton Mills)	122, Old Ghosery Road, Howrah	—	27,056	—	768
14. Shree Radha Krishna Cotton Mills No. 2 (formerly Jajodia Cotton Mills, Ltd.)	Girish Gosh Lane, Belur, (Howrah Dist.)	—	15,792	267	622
[Messrs. Sadhuram Tularam. Proprietors, 9, Juggomohan Mallick's Lane, Barabazar, Calcutta]					
15. Victoria Cotton Mills	Ghoosery, Salkia, P. O. Howrah District	—	11,920	—	287
[C. E. Walker, Esq., Receiver, c/o Messrs. Lovelocke & Lewes, 4 Lyons Range, Calcutta]					
	Total	20,850,485	19,112	339,224	4,134 13,735
PUNJAB					
1. Banktreshwar Cotton Mills (formerly Amritsar Cotton Mills Co., Ltd.)	Grand Trunk Rd., Amritsar (Punjab)	—	13,552	252	800
[Messrs. Hargobindrai Mathradas, Owners, office on mill premises]					
2. Birla Cotton Spinning and Weaving Mills, Ltd. (formerly Hanoman and Mahadeo S. & W. Mills)	Subzimundi, Delhi	1,375,000	—	500	1,253
[Messrs. Birla Bros., Ltd., Agents, 8, Royal Exchange Place, Calcutta]					
3. Delhi Cloth and General Mills Co., Ltd., No. 1	Rohtak Road, Delhi	1,000,000	9,126	774	1,850
4. " " No. 2	" " "	.. .. .	884	777	1,269
[Messrs. Lala Madan Mohan Lal & L. Shri Ram, Agents, office on mill premises]					
* Goenka Cotton Spinning & Weaving Mills Co., Ltd.	Grand Trunk Rd., Delhi	998,200	—	306	—
[Messrs. Parasram Harnandrai, Mgt. Agents, Khatra Tobacco, Delhi]					
	Total carried forward	3,373,200	23,562	2,609	5,172

* Statement not received. Figures taken from last year's statement.

+ Native States and Foreign Territory.

Proprietary concerns.

continued

1118-1119

[Faint, illegible handwritten notes]

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13. * Juglal Kamlapat Cotton Spinning and Wvg. Mills, Co., Ltd. [Lala Lakshmiapat, Director, Chatai Mohal, Cawnpore]	..	Anwarganj, Juh, Cawnpore	2,700,000	50,000	50,000	1,000	1,500
14. ‡ Lalla Mal Hardeo Dass Cotton Spinning Mill Co. ..	..	Sadabad Gate, Hathras City, Aligarh District..	—	13,000	7,000	—	661
15. Moradabad Spinning and Weaving Mills Co., Ltd. ..	..	Moradabad, U.P. ...	426,500	10,080	—	—	300
16. Muir Mills Co., Ltd. ..	..	Cawnpore	3,000,000	54,720	25,016	1,554	2,966
17. ‡ Munna Lal Spinning Mills ..	..	Sachedi P.O. (Dist. Cawnpore)	—	2,600	—	—	—
18. ‡ New Ranchand Cotton Mill Co. (formerly Ranchand Hardeoas Cotton Spinning Mills) [Messrs. Harcharandas, Purshottamdas, Proprietors & Agents, Mursan Gate, Hathras City]	..	Hathras City, Aligarh Dis.	—	11,074	9,504	200	607
19. New Victoria Mills Co., Ltd. ..	..	Gwaltoli, Cawnpore	13,500,000	66,792	37,544	1,620	4,074
20. Prem Spinning and Weaving Mills Co., Ltd. ..	..	Ujhani (District Badaun)	2,320,268	—	17,600	—	472
21. Ranchand Gursahainal Cotton Mills Co., Ltd. ..	..	Talkatora, Lucknow	{ 896,516 } 242,925	—	17,888	—	670
22. * Shri Gangajee Cotton Mills Co., Ltd. ..	..	Natwa, Mirzapore, U.P.	474,600	4,590	7,852	150	—
23. * ‡ Shri Radhakrishna Mills ..	..	Nar Ghat, Mirzapur	114,937	—	—	60	50
24. Swadeshi Cotton Mills Co., Ltd. ..	..	Juhi, Cawnpore	3,500,000	1,060	45,000	819	2,120
Total			43,356,092	347,630	314,194	8,564	23,998

MADRAS PRESIDENCY

1. * Bezwada Spinning and Weaving Mills, Ltd. ..	..	Tadepalli, Guntur Dist. ..	262,960	—	—	100	44
2. Buckingham Mill Co., Ltd. ..	..	Perambore, Madras	{ 11,050,900 }	—	46,712	1,400	4,354
3. Carnatic Mill Co., Ltd. ..	..	„	—	—	50,572	1,333	4,516
4. ‡ C. Aaron & Sons Weaving Factory ..	..	Pappinissery, North Mala- bar	—	—	—	36	60
5. Coimbatore Mall Mills Co., Ltd. ..	..	Annuperalayam, Coim- batore	706,690	—	4,676	393	596
6. Coimbatore Spinning and Weaving Co., Ltd. ..	..	270, Mill Rd., Coimbatore	1,382,300	—	57,832	302	1,967
Total carried forward			13,402,850	—	159,792	3,564	11,537

* Statement not received. Figures taken from last year's statement.
+ Native States and Foreign Territory.
‡ Proprietary concern.

Madras Presidency (continued)

No.	Name of the Mill	Location	Capital Paid up	Capital Reserve	Total Capital	Assets	Liabilities	Net Assets
7.	*Commonwealth Trust, Ltd., Cannanore Weaving Works Co. H. Hodgson, Ltd., General Manager, The Commonwealth Trust, Ltd., Calicut, Dewan Babadur P. Somasundaram Chettiar, Local Agent, office on mill premises	Cannanore	6,28,573	—	6,28,573	219	200	—
8.	Kalacozhar Mills, Ltd. Messrs. J. D. Sargison & Co., Ltd., Agents, Pongall Road, Kollard Estate, Bombay	Anappalpayam, Coimbatore District	650,000	—	650,000	25,968	294	1,403
9.	Loyall Mills, Ltd. (Formerly Tinnevely Textiles, Ltd.) Messrs. L. D. Sargison & Co., Ltd., Agents, Pongall Road, Kollard Estate, Bombay	Tinnevely, Coimbatore District	1,000,000	—	1,000,000	18,160	100	484
10.	Madura United Spinning and Weaving Mills, Co., Ltd. Messrs. Karandasa Mulji Jantha & Co., Secy. & Treasurers, 346, Standard Building, Hornby Road, Fort, Bombay	Po-Mellore Rd., Choodai, Madras	500,500	—	500,500	40,164	774	2,004
11.	Madura Mills, Co., Ltd., Madura Messrs. A. & P. Harvey, Managers, Tuticorin	(Tuticorin)	—	—	—	219,036	—	7,068
12.	Madura Mills Co., Ltd., Tuticorin (Formerly Coral Mills Co., Ltd.) Messrs. A. & P. Harvey, Managers, Tuticorin	(Tuticorin)	—	—	—	73,560	—	2,310
13.	" " " " " " " " " " " " Messrs. A. & P. Harvey, Managers, Tuticorin	(Tuticorin)	—	—	—	43,076	—	16,23
14.	" " " " " " " " " " " " Messrs. A. & P. Harvey, Managers, Tuticorin	(Tuticorin)	—	—	—	9,968	—	413
15.	Malabar Spinning and Weaving Co., Ltd. Mr. A. J. A. P. Somasundaram Chettiar, Agent, Kallar, Malabar	Kallar, Malabar	600,000	—	600,000	17,686	—	689
16.	Malabar Weaving Co., Ltd. Mr. A. J. A. P. Somasundaram Chettiar, Agent, Kallar, Malabar	Cannanore	—	—	—	300	10	85
17.	Radhakrishna Mills, Ltd. Messrs. A. G. Govindarajan Naidu & Co., Mgrs. Agents, office on mill premises	Peelamedu, Coimbatore	837,219	—	837,219	20,520	—	917
18.	Raja Mills Mr. M. V. Palanisamy, Proprietor, office on mill premises	Madura	—	—	—	—	—	—
19.	Sitarani S. & W. Mills, Ltd. Messrs. I. P. Anantharam Iyer & Bros., Ltd., Managing Agents, Trichur	Trichur, Cochin State, Malabar Coast	1,298,575	—	1,298,575	11,328	303	860
20.	Somasundaram Mills, Ltd. (Formerly A.R.A.R.S.M. Spg. Mills) Somasundaram Mill, Ltd., office on mill premises	45, Parakkal Rd., Vepery, Madras	1,675,000	—	1,675,000	10,400	—	—
21.	Sree Meenakshi Mills, Ltd. Messrs. Thirugara Chetty & Co., Managing Agents, office on mill premises	Thirupparankundram Road, Madura	1,407,700	—	1,407,700	12,480	—	354
22.	*Sri Panachandra Spg. & Weav. Mills Messrs. Sula Veerabhadra Bros. & Co., office on mill premises	Pandalapaka, Godavari District	—	—	—	—	—	—
23.	Sri Rangana Vilas Ginning, Spg. & Weav. Mills, Ltd. (Messrs. P. S. Govindarajan Naidu & Sons, Mgr. Agents, office on mill premises)	Peelamedu, Coimbatore	1,126,875	—	1,126,875	28,192	—	984
24.	Sri Suryanarayana Spg. & Weav. Mills, Ltd. Mr. Venka Venkataratnam, Manager and Treasurer, office on mill premises	Pandalapaka, Godavari District	249,275	—	249,275	2,736	—	137
	Total		28,370,104	468	28,370,572	693,844	5,264	31,098

LIST OF COTTON MILLS

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MYSORE

1. * Bangalore Woollen, Cotton and Silk Mills Co., Ltd. Messrs. Bann A Co. (Madras) Ltd., Agents, Secretaries and Treasurers, 7, Armenian Street, Madras]	Agaram Road, Bangalore City	2,625,000	—	84,824	1,000	2,300
2. * Bangalore Spg. & Wvg. Mills Ltd. Messrs. C. H. Sastri & Sons, Bangalore City	Yeswanthpur, Bangalore City	180,404	—	—	120	—
3. * Mueerva Mills Co., Ltd. [Messrs. N. Srinivas Co., Mg. Agents, 14, Back St., Fort, Bombay]	Bangalore Tanjour Rd., Madras- warum, Bangalore City	2,462,852	—	29,186	20,100	1,045
4. * Mysore Spinning and Manufacturing Co., Ltd. [Messrs. N. Srinivas Co., Mg. Agents, 14, Back St., Fort, Bombay]	—	1,250,000	—	29,400	20,400	1,001
5. * Sri Krishna Raviendra Mills, Ltd. [Messrs. M. L. Varghese & Co., Managing Agents, Post Box No. 101, Statue Square, Mysore]	Siddalingapur, Mysore	1,808,875	—	28,124	28,124	100
Total		8,431,101	—	142,514	123,114	1,540

PONDICHERRY

1. * Anglo-French Textile Co., Ltd. (Rocher Mill) [Messrs. Best & Co., Ltd., Agents and Managers, Post Box No. 68, Madras]	Pondicherry	2,087,788	—	42,844	800	2,500
2. * Etablissement Textile De Madharipeth S. A. formerly The Pondi- cherry Cotton Mills, Ltd. [De Filatures F. Lissac, Agents, office on mill premises]	Modicherry, Pondicherry	250,000	—	9,000	9,000	240
3. * * Savaria "Societe Anonyme de Filature Lissac Monique" [Mr. Charles Gendey, Manager, Pondicherry]	Savaria (Inde-Française), Pondicherry	8,427,300	300	10,500	20,000	640
Total		3,765,088	300	71,444	71,944	1,770

BURMA

1. * Steel Bros. Spg. & Wg. Co., Ltd. formerly Burma Spinning and Weaving Co., Ltd. [U. Shwe Tha General Manager, office on mill premises]	Mong Hsan (Upper Burma)	1,066,800	—	9,920	8,920	—
Total		1,066,800	—	9,920	9,920	—
Grand Total		46,201,770	571,151	7,086,918	7,307,064	13,922,840

CEYLON

1. * Ceylon Spinning and Weaving Co., Ltd. [Messrs. Currambhay Brothers & Sons, Ltd., Agents, 12, 14, Quorum Road, Fort Road]	Havelock Road, Welis- salle, Colombo, Ceylon	1,105,125	405	15,512	10,800	1,100
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* Statement not received. Figures taken from last year's statement.

* Native States and Foreign Textile Co.

* Proprietary concern.

The Grand Total of paid-up Capital does not include the figures for 37 mills which made no returns as to Capital.

Note.—This statement does not contain names of weaving mills having less than 20 looms.

FINANCIAL ANALYSIS OF INDIA'S COTTON MILLS

We are indebted to the "Investor's India Year Book 1929-30," published by Place, Siddons & Gough, 32, Dalhousie Square, Calcutta, at Rs.15, from which the following analyses have been extracted:—

AGRA UNITED MILLS, LTD.

65,243 spindles.

BALANCE SHEET AS ON SEPTEMBER 30, 1926.

	Rs.		Rs.
Capital, including debentures	11,498,900	Gross block	11,506,608
Reserve fund	1,007,040	Less depreciation	2,968,091
Sundry liabilities	4,682,320		
		Nett block	8,538,517
		Liquid assets	5,065,707
		Profit and loss account	3,584,036
Total	17,188,260	Total	17,188,260

ANALYSIS OF WORKING.

Year ended September	1922 Rs.	1923 Rs.	1924 Rs.	1925 Rs.	1926 Rs.
Profit	1,581,984	126,822	-828,534	-584,259	624,979
Depreciation	483,853	502,610	503,047	489,633	500,447
Preliminary expenses, brokerage and com- mission	—	—	—	—	—
Reserve fund	807,040	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	322,651	-53,137	-1,384,718	-2,458,610	-3,584,036
Highest and lowest price of shares	9 $\frac{1}{8}$ —6 $\frac{1}{4}$	6 $\frac{1}{2}$ —1 $\frac{3}{8}$	4 $\frac{1}{4}$ —1	2 $\frac{1}{4}$ — $\frac{1}{2}$	1— $\frac{3}{8}$

No later reports available for 1927 and 1928.

AHMEDABAD ADVANCE MILLS, LTD.

30,692 spindles and 602 looms.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital	1,000,000	Block expenditure	3,333,473
Reserve funds	1,637,180	Liquid assets	5,035,010
Depreciation fund	2,393,371		
Other funds	1,304,252		
Sundry liabilities, including profit and loss account	2,033,680		
Total	8,368,483	Total	8,368,483

ANALYSIS OF WORKING.

Year ended June	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	394,521	273,025	200,007	*275,296	331,532
Depreciation fund	125,000	50,000	50,000	75,000	100,000
Reserve funds	—	—	—	—	—
Other funds	30,000	15,000	—	—	—
Dividend	240,000	240,000	220,000	200,000	210,000
Dividend rate per cent. per annum	24	24	22	20	21
Carried forward	104,030	72,055	2,062	2,358	12,890
Highest and lowest price of shares	480—397 $\frac{1}{2}$	425—360	452 $\frac{1}{2}$ —390	427 $\frac{1}{2}$ —370	387 $\frac{3}{4}$ —328 $\frac{3}{4}$

* Includes Rs. 40,000 transferred from Equalization of Dividend Fund.

FINANCIAL ANALYSIS

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APOLLO MILLS, LTD.

48,678 spindles and 896 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital, including debentures	4,500,000	Gross block	7,778,673
Reserve fund	1,082,132	Less depreciation	807,958
Sundry liabilities	2,701,890		
		Nett block	6,970,715
		Liquid assets	929,913
		Profit and loss account	383,394
Total	<u>8,284,022</u>	Total	<u>8,284,022</u>

ANALYSIS OF WORKING.

Period ended	March, 1925 Rs.	March, 1926 Rs.	March, 1927 Rs.	March, 1928 Rs.	March, 1929 Rs.
Profit	-360,514	-211,768	-150,479	100,859	-383,394
Depreciation	—	—	—	100,859	—
Reserve funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	-357,540	-569,308	-719,787*	—	-383,394
Highest and lowest price of shares	24-17	16½-6	9½-6	9-5	7½-5

* This sum was written off against reserve fund.

BANGALORE WOOLLEN, COTTON & SILK MILLS CO., LTD.

38,752 cotton and 2,804 woollen spindles and 1,000 cotton and 46 woollen looms.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital	2,625,000	Gross block	10,719,030
Reserve funds	1,010,000	Less depreciation	7,799,519
Other funds	838,311		
Sundry liabilities, including profit and loss account	5,377,669	Nett block	2,919,511
		Liquid assets	6,931,469
Total	<u>9,850,980</u>	Total	<u>9,850,980</u>

ANALYSIS OF WORKING.

Half-year ended	June 1927 Rs.	Dec. 1927 Rs.	June 1928 Rs.	Dec. 1928 Rs.	June 1929 Rs.
Profit	279,818	305,899	292,254	291,304	307,427
Depreciation	193,234	191,502	190,129	180,256	184,722
Reserve fund	—	—	—	—	—
Other funds	30,000	30,000	30,000	30,000	30,000
Dividend	60,750	60,750	60,750	60,750	60,750
Dividend rate per cent. per annum	6	6	6	6	6
Carried forward	27,262	32,909	26,284	28,582	42,537
Highest and lowest price of shares	198-185	200-190	190-180	185-177½	177½-150

BENGAL LUXMI COTTON MILLS, LTD.

36,000 ring spindles, 416 mule spindles, 719 looms, together with a dyehouse.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,778,200	Gross block	2,891,788
Reserve funds	1,868,010	Less depreciation	1,505,666
Sundry liabilities	2,394,535		
		Nett block	1,386,122
		Liquid assets	3,961,487
		Profit and loss account	693,136
Total	6,040,745	Total	6,040,745

ANALYSIS OF WORKING.

Period ended	Dec., 1926 Rs.	June, 1927 Rs.	March, 1928* Rs.	Sept., 1928 Rs.	March, 1929 Rs.
Profit	708	—247,781	—185,349	—1,399	39,786
Depreciation	46,172	45,314	128,011	85,635	73,313
Reserve fund	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	45,730	—247,365	—560,725	—647,759	—693,136
Highest and lowest price of shares	118–100	122–65	77–50	81–65	72–71

* Accounts shown for 9 months.

BENGAL-NAGPUR COTTON MILLS, LTD.

31,652 ring spindles and 625 looms.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital, including debentures	1,600,000	Gross block	2,550,893
Reserve funds	700,000	Less depreciation	1,775,891
Sundry liabilities, including profit and loss account ..	893,980		
		Nett block	775,002
		Liquid assets	2,418,978
Total	3,193,980	Total	3,193,980

ANALYSIS OF WORKING.

Half-year ended	June, 1927 Rs.	Dec., 1927 Rs.	June, 1928 Rs.	Dec., 1928 Rs.	June, 1929 Rs.
Profit	190,161	248,553	182,285	212,874	194,290
Depreciation	58,778	50,000	49,515	25,000	5,296
Reserve funds	20,000	—	—	—	—
Dividend	90,000	180,000	135,000	180,000	180,000
Dividend rate per cent. per annum	20	40	30	40	40
Carried forward	14,040	22,093	9,362	6,736	5,230
Highest and lowest price of shares	25½–21½	30½–21	33–25	31½–28	34½–30

FINANCIAL ANALYSIS

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BIRLA COTTON SPINNING & WEAVING MILLS, LTD.

21,000 spindles and 500 looms.

BALANCE SHEET AS ON JUNE 30 1929.

	Rs.		Rs.
Capital	1,375,000	Gross block	2,532,239
Reserve fund	225,000	Less depreciation	867,239
Sundry liabilities, including profit and loss account..	1,966,924	Nett block	1,665,000
		Liquid assets	1,901,924
Total	<u>3,566,924</u>	Total	<u>3,566,924</u>

ANALYSIS OF WORKING.

Half-year ended ..	June, 1927 Rs.	Dec., 1927 Rs.	June, 1928 Rs.	Dec., 1928 Rs.	June, 1929 Rs.
Profit	81,268	54,479	—17,001	146,799	104,949
Depreciation	45,466	59,860	64,145	62,121	102,050
Reserve funds	—	—	—	—	—
Dividend	—	—	—	34,375	*68,750
Dividend rate per cent. per annum	—	—	—	5	10
Carried forward	47,697	42,316	—38,830	11,473	14,372
Highest and lowest price of shares	N	N	N	N	N

* This dividend was paid from general reserve.

BOMBAY COTTON MANUFACTURING CO., LTD.

33,648 spindles and 797 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	2,244,770	Block Expenditure	3,076,362
Depreciation Fund.. .. .	1,458,792	Liquid Assets	1,643,665
Reserve Fund	297,283	Profit and Loss Account	65,752
Sundry Liabilities	784,934		
Total	<u>4,785,779</u>	Total	<u>4,785,779</u>

ANALYSIS OF WORKING.

Year ended March	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	—29,380	—450,997	47,945	90,460	—68,365
Depreciation	—	—	—	87,846	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	—22,054	—473,051†	47,945*	2,613	—65,752
Highest and lowest price of shares	605-445	495-305	415-302½	375-315	315-160

* This loss was transferred to Reserve Fund.

† This balance was transferred to Depreciation Fund.

There is a contingent liability of Rs. 263,068, being dividend on cumulative Preference shares for the years ended March 31, 1925, 1926, 1927, 1928 and 1929.

BOMBAY DYEING AND MANUFACTURING CO., LTD.

181,544 spindles and 4,848 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	6,274,500	Block Expenditure	29,550,415
Depreciation Fund	11,423,037	Liquid Assets	14,630,199
Reserve Funds	17,408,147	Profit and Loss Account ..	55,800
Other Funds	940,492		
Sundry Liabilities	8,190,238		
Total	<u>44,236,414</u>	Total	<u>44,236,414</u>

ANALYSIS OF WORKING.

Year ended December ..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit on Dye Works ..	313,262	280,054	209,254	270,485	117,757
Profit on Spring Mills ..	270,592	672,618	476,260	1,065,334	—191,532
Profit on Textile Mills ..	175,879	454,682	497,012	792,964	—35,065
Net Profit	2,014,633*	2,550,518	2,387,373†	3,195,136	—108,840
Depreciation	975,000	1,143,164	1,134,747	1,066,352	—
Reserve Fund	—	—	—	825,000	—
Dividend	1,254,900	1,254,900	1,254,900	1,254,900	1,254,900‡
Dividend rate per cent. per annum	26	20	20	20	20
Carried forward	—146,024	6,430	4,156	53,040	—55,800
Highest and lowest price of shares	878 $\frac{3}{4}$ —660	1,170—730	961 $\frac{1}{4}$ —842 $\frac{1}{2}$	1,002 $\frac{1}{2}$ —898 $\frac{3}{4}$	956 $\frac{1}{4}$ —791 $\frac{1}{4}$

* Includes Rs. 1,254,900 transferred from the Dividend Equalization Fund.

† Includes Rs. 70,100 transferred from the Dividend Equalization Fund.

‡ This dividend was paid by transferring the amount from the Equalization of Dividend Account.

BOWREATH COTTON MILLS CO., LTD.

46,672 spindles.

BALANCE SHEET AS ON JUNE 20, 1929.

	Rs.		Rs.
Capital	1,800,000	Gross Block	4,520,618
Reserve Fund	3,169,801	Less Depreciation	2,445,000
Sundry Liabilities, including Profit and Loss Account..	118,527	Nett Block	2,075,618
		Liquid Assets	3,012,710
Total	<u>5,088,328</u>	Total	<u>5,088,328</u>

ANALYSIS OF WORKING.

Half-year ended ..	June 1927 Rs.	Dec. 1927 Rs.	June 1928 Rs.	Dec. 1926 Rs.	June 1929 Rs.
Profit	100,250	119,107	—56,022	—72,258	350,002*
Depreciation	—	—	—	—	50,000
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	—228,183	—109,075	—165,097	—237,355	14,647
Highest and lowest price of shares	394—314	364—327	350—340	382—310	352—310

† Includes Rs. 200,000 transferred from Reserve Fund.

N.B.—There is a contingent liability in respect of divided on "A" Preference shares from January, 1926.

FINANCIAL ANALYSIS

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BRADBURY MILLS, LTD.

36,664 spindles and 848 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	2,485,000	Gross Block	3,078,024
Reserve Fund	1,400,000	Less Depreciation	825,200
Sundry Liabilities	813,998		
		Net Block	2,252,824
		Liquid Assets	2,132,041
		Profit and Loss Account	314,133
Total	4,698,998	Total	4,698,998

ANALYSIS OF WORKING.

Year ended March	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	62,304*	—151,398	—33,272	182,183	—195,616
Depreciation	—	—	—	84,200	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	19,796	—131,602	—164,875	—118,517	—314,133
Highest and lowest price of shares	500—425	470—320	380—200	300—260	290—170

* Includes Rs. 25,000 transferred from Equalization of Dividend Fund.

There is a contingent liability of Rs. 413,000 being dividend on cumulative Preference shares for four years ending March 31, 1929.

BUCKINGHAM & CARNATIC CO., LTD.

46,600 spindles and 1,400 looms ; Carnatic Mill, Madras (Cotton), 50,572 spindles and 1,333 looms ; Nellimarla Jute Mill, Nellimarla (B.-N. Ry.), 275 looms. Cotton Presses :—Davangere Press, Nandyal Press, Tadpatri Press and Tirupur Press.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital	11,050,900	Gross Block	23,050,831
Reserve Funds	3,806,900	Less Depreciation	17,140,669
Other Funds	3,104,713		
Sundry Liabilities, including Profit and Loss Account .	6,687,308	Net Block	5,910,162
		Liquid Assets	18,739,659
Total	24,649,821	Total	24,649,821

ANALYSIS OF WORKING

Half-year ended	June 1927	Dec. 1927	June 1928	Dec. 1928	June 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	1,321,983	1,404,866	1,572,748	1,453,372	1,409,526
Depreciation	809,638	782,922	858,393	709,649	685,309
Reserve Funds	—	—	100,000	100,000	100,000
Other Funds	80,000	80,000	80,000	80,000	80,000
Dividend	446,045	446,045	446,045	446,045	446,045
Dividend rate per cent. per annum	10	10	10	10	10
Carried forward	135,166	151,190	159,625	197,428	215,725
Highest and lowest price of shares	215—190	218—204½	218—180	190—180	180—173

CAWNPORE TEXTILES, LTD.

30,000 spindles.

BALANCE SHEET AS AT SEPTEMBER 30, 1929

	Rs.		Rs.
Capital, including Debentures.	2,406,215	Gross Block	2,717,035
Reserve Fund	51,028	Less Depreciation ..	668,774
Sundry Liabilities	294,478		
		Nett Block	2,048,261
		Liquid Assets	549,215
		Profit and Loss Account	154,245
Total	<u>2,751,721</u>	Total	<u>2,751,721</u>

ANALYSIS OF WORKING

Half-year ended	Sept. 1927	Mar. 1928	Sept. 1928	Mar. 1929	Sept. 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	133,326	—7,896	—91,319	63,227	121,263
Depreciation	63,234	59,885	59,885	59,885	59,885
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Carried forward ..	70,092*	—67,781	—218,985	—215,643	—154,245
Highest and lowest price of shares	4½—3¾	4—3¾	3¾—1¾	2—1½	2—1½

* This balance was transferred to Debenture Loan Sinking Fund.

CENTRAL INDIA SPINNING, WEAVING AND MANUFACTURING CO., LTD.

100,656 spindles and 2,196 looms.

BALANCE SHEET AS ON JUNE 30, 1929

	Rs.		Rs.
Capital	9,687,500	Block Expenditure ..	15,632,418
Depreciation Fund ..	8,621,635	Liquid Assets	25,838,784
Reserve Fund	5,031,823		
Other Funds	6,216,418		
Sundry Liabilities, including Profit and Loss Account	11,913,826		
Total	<u>41,471,202</u>	Total	<u>41,471,202</u>

ANALYSIS OF WORKING.

Year ended	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	2,251,093	1,759,507	1,680,862*	1,896,458	1,898,234
Depreciation Fund ..	200,000	200,000	200,000	200,000	300,000
Reserve Funds	—	—	—	—	—
Other Funds	200,000	50,000	—	125,000	125,000
Dividend on Ordinary shares	1,593,750	1,500,000	1,406,250	1,312,500	1,218,750
Dividend rate per cent. per annum	34	32	30	28	26
Carried forward ..	416,714	176,221	833	9,791	14,275
Highest and lowest price of shares	552½—425	515—425	542½—500	573¾—496¼	516¼—456

* Includes Rs. 180,000 transferred from the Equalization of Dividend Fund.

N.B.—In January, 1927 a Jubilee bonus of Rs. 12 per share was paid out of the Equalization of Dividend Fund to such Ordinary shareholders as were on the Company's register on December 11, 1926.

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CENTURY SPINNING AND MANUFACTURING CO., LTD.

120,176 spindles and 3,130 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928

	Rs.		Rs.
Capital	1,850,000	Block Expenditure ..	13,548,618
Reserve Funds	3,003,188	Liquid Assets	5,225,528
Depreciation Funds	7,869,520	Profit and Loss Account	235,503
Other Funds	2,120,595		
Sundry Liabilities	4,166,346		
Total	<u>19,009,649</u>	Total	<u>19,009,649</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	-410,436	-103,361	601,860	1,081,819	-260,156
Depreciation	—	—	360,000	425,000	—
Reserve Funds	—	—	—	300,000	—
Other Funds	—	—	—	—	—
Dividend	370,000*	370,000*	370,000*	370,000	370,000*
Dividend rate per cent. per annum	20	20	20	20	20
Carried forward	-100,665	-204,026	37,833	24,652	-235,503
Highest and lowest price of shares	447½-333¾	565-300	438¾-348¾	495-390	472½-357½

* This dividend was paid by transferring the amount from Dividend Equalization Fund.

COIMBATORE SPINNING AND WEAVING CO., LTD.

57,832 spindles and 302 looms.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital, including Deben- tures	1,880,300	Gross Block	4,329,644
Reserve Funds	2,530,829	Less Depreciation	2,316,796
Sundry Liabilities, including Profit and Loss Account..	1,620,515	Nett Block	2,012,848
		Liquid Assets	4,018,796
Total	<u>6,031,644</u>	Total	<u>6,031,644</u>

ANALYSIS OF WORKING.

Year ended June ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	85,023*	157,130	331,177†	262,439‡	110,276†
Depreciation	—	45,000	186,073	119,439	—
Reserve Funds	—	—	—	—	—
Dividend	96,000	120,000	144,000	144,000	110,584
Dividend rate per cent. per annum	8	10	12	12	8
Carried forward	8,551	681	1,785	785	477
Highest and lowest price of shares	209-96	176-146	180-155	225-172½	225-157½

* Includes Rs. 200,000 transferred from Dividend Equalization Fund to pay dividend, the actual result being a loss of Rs. 114,977.

† Includes Rs. 30,000 transferred from Dividend Equalization Fund.

‡ Includes Rs. 6,000 transferred from Dividend Equalization Fund.

COLABA LAND AND MILL CO., LTD.

44,792 spindles and 697 looms. The Company in addition to these two mills, owns a considerable property in the shape of land and buildings, from which it receives a large rental.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,800,000	Gross Block	6,619,494
Reserve Funds	1,895,319	Less Depreciation	2,170,613
Other Funds	23,887		
Sundry Liabilities, including		Nett Block	4,448,881
Profit and Loss Account.	1,708,042	Liquid Assets	1,978,367
Total	6,427,248	Total	6,427,248

ANALYSIS OF WORKING.

Year ended December ..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	204,291*	171,303†	—6,569	176,271§	169,579||
Depreciation	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Other Funds	—	—	—	—	—
Dividend	210,000	168,000	168,000‡	168,000	168,000
Dividend rate per cent.					
per annum	7½	6	6	6	6
Carried forward . . .	3,510	6,813	244	8,515	10,094
Highest and lowest price					
of shares	215–123¾	171¼–88½	200–115	161¼–128¾	147½–129

* Includes Rs. 175,000 transferred from the Dividend Equalization Fund.

† Includes Rs. 160,000 transferred from the Dividend Equalization Fund.

‡ This Dividend was paid from the Dividend Equalization Fund.

§ Includes Rs. 35,000 transferred from Dividend Equalization Fund.

|| Includes Rs. 50,000 transferred from Dividend Equalization Fund.

COORLA SPINNING AND WEAVING CO., LTD.

27,568 spindles and 719 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,300,000	Block Expenditure	2,402,297
Depreciation Fund	1,926,177	Liquid Assets	2,113,255
Reserve Funds	900,000		
Sundry Liabilities, including			
Profit and Loss Account..	389,375		
Total	4,515,552	Total	4,515,552

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	226,236	145,899	156,221	215,596	108,569*
Depreciation	100,000	50,000	70,000	60,000	60,000
Reserve Funds	—	—	—	—	—
Dividend	130,000	97,500	97,500	156,000	65,000
Dividend rate per cent.					
per annum	10	7½	7½	12	5
Carried forward	36,392	34,791	23,512	23,108	6,677
Highest and lowest price					
of shares	200–105	160–120	165–120	185–160	180–130

* Includes Rs. 25,000 transferred from Equalization of Dividend Fund.

CRESCENT MILLS CO., LTD.

44,688 spindles and 1,054 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,500,000	Gross Block .. .	5,041,188
Reserve Funds .. .	2,189,914	Less Depreciations ..	2,827,708
Other Funds .. .	387,931		
Sundry Liabilities ..	1,170,794	Nett Block .. .	2,213,480
		Liquid Assets .. .	2,703,990
		Profit and Loss Account ..	331,169
Total .. .	<u>5,248,639</u>	Total .. .	<u>5,248,639</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit .. .	225,708	—6,676*	109,230†	153,226§	—334,626
Depreciation .. .	60,000	—	34,000	45,000	—
Reserve Funds .. .	165,000	60,000	75,000	105,000	—
Dividend rate per cent. per annum .. .	11	4	5	7	—
Carried forward ..	4,362	—62,314†	230	3,456	—331,169†
Highest and lowest price of shares .. .	285-215	240-171½	201¼-162½	237½-178¾	175-125

* This loss is shown after transferring Rs. 60,000 from Dividend Equalization Fund to Pay Dividend; the actual result being a loss of Rs. 66,676.

† This loss was written off from the Reserve Fund.

‡ This includes Rs. 75,000 transferred from Dividend Equalization Fund.

§ This includes Rs. 14,116 transferred from Dividend Equalization Fund.

CURRIMBHOY MILLS CO., LTD.

82,352 spindles and 1,013 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital, including Deben- tures .. .	4,200,000	Gross Block .. .	9,128,266
Reserve Fund .. .	1,859,078	Less Depreciation ..	3,649,772
Other Funds .. .	611,898		
Sundry Liabilities ..	2,443,508	Nett Block .. .	5,478,494
		Liquid Assets .. .	3,187,721
		Profit and Loss Account ..	448,269
Total .. .	<u>9,114,484</u>	Total .. .	<u>9,114,484</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit .. .	—253,608	—307,291	—161,175	382,012	—452,631
Depreciation .. .	—	—	—	289,650	—
Reserve Funds .. .	—	—	—	—	—
Other Funds .. .	—	—	—	—	—
Dividend .. .	—	—	—	88,000	—
Dividend rate per cent. per annum .. .	—	—	—	4	—
Carried forward ..	—242,764*	—307,291*	—161,175*	4,362	—448,269
Highest and lowest price of shares .. .	510-400	470-300	380-200	287½-215	250-145

* This loss was written off from the Reserve Fund.

DAVID MILLS CO., LTD.

81,634 spindles and 1,222 looms. During 1928, the Company acquired 'a' spinning mill consisting of 12,148 ring spindles, in Hathras, which was named the Bijli Mill.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,400,000	Gross Block	10,246,569
Reserve Funds	2,126,045	Less Depreciation	3,480,577
Other Funds	211,792		
Sundry Liabilities	5,870,662	Nett Block	6,765,992
		Liquid Assets	3,060,658
		Profit and Loss Account	781,849
Total	<u>10,608,499</u>	Total	<u>10,608,499</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	—186,137	—133,594	—417,265	300,008	—781,849
Depreciation	—	—	—	300,008	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	—408,364*	—133,594†	—417,265†	—	—781,849
Highest and lowest price of shares	500-400	500-350	380-280	300-205	265-240

* This loss was written off from Dividend Equalization Fund.

† This loss was written off from Reserve Fund.

DAWN MILLS CO., LTD.

39,608 spindles.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	800,000	Gross Block	3,088,977
Reserve Funds	2,802,000	Less Depreciation	979,081
Other Funds	105,370		
Sundry Liabilities, including Profit and Loss Account	1,180,534	Nett Block	2,109,896
		Liquid Assets	2,778,008
Total	<u>4,887,904</u>	Total	<u>4,887,904</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	178,004	200,055	201,315	55,322	71,570†
Depreciation	66,000	100,381	92,700	60,000	35,000
Reserve Funds	—	50,000	—	—	—
Other Funds	2,000	2,000	2,000	—	—
Dividend	128,000	128,000	112,000	48,000*	32,000
Dividend rate per cent. per annum	16	16	14	6	4
Carried forward	90,618	10,292	4,907	10,229	4,570
Highest and lowest price of shares	712½-465	720-510	780-615	745-650	720-540

* This dividend was paid from Reserve Fund.

† Includes Rs. 32,000 transferred from Reserve Fund.

DUNBAR MILLS, LTD.

45,360 spindles.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital, including Debentures	2,704,000	Gross Block	6,328,666
Reserve Funds	1,818,742	Less Depreciation	4,702,038
Sundry Liabilities, including Profit and Loss Account..	369,525	Nett Block	1,626,628
		Liquid Assets	3,265,639
Total	<u>4,892,267</u>	Total	<u>4,892,267</u>

ANALYSIS OF WORKING.

Half-year ended ..	June 1927	Dec. 1927	June 1928	Dec. 1928	June 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	226,097	140,799	90,980	143,714	229,416
Depreciation	50,000	50,000	50,000	50,000	50,000
Reserve Funds	25,000	25,000	13,000	13,000	13,000
Dividend	70,000	35,000	—	42,000	70,000
Dividend rate per cent. per annum	10	5	—	6	10
Carried forward	56,033	36,832	47,312	3,526	49,942
Highest and lowest price of shares	249½–157	261–216	225½–176	213½–175	237–181

EBRAHIMBHOY PABANEY MILLS CO., LTD.

57,880 spindles and 1,054 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	2,000,000	Gross Block	5,495,562
Reserve Funds	1,836,526	Less Depreciation	2,321,237
Other Funds	134,846	Nett Block	3,174,325
Sundry Liabilities	2,081,867	Liquid Assets	2,542,280
		Profit and Loss Account ..	336,634
Total	<u>6,053,239</u>	Total	<u>6,053,239</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	239,653	—3,059	—86,936	316,499	—375,833
Depreciation	120,000	—	—	137,300	—
Reserve Funds	—	—	—	—	—
Dividend	120,000	—	—	140,000	—
Dividend rate per cent. per annum	6	—	—	7	—
Carried forward	3,917	858	—86,078*	39,199	—336,634
Highest and lowest price of shares	405–280	347½–225	273¾–200	318¾–237½	272½–192½

* This loss was written off from the Reserve Fund.

E. D. SASSOON UNITED MILLS, LTD.

The Company has six mills, viz., Jacob Sassoon Mill containing 2,227 looms and 99,856 spindles ; Alexandra Mill containing 770 looms and 36,176 spindles ; E. D. Sassoon Mill containing 843 looms and 86,626 spindles ; Rachel Sassoon Mill containing 2,179 looms ; Manchester Mill containing 800 looms and 25,444 spindles and E. D. Sassoon Turkey Red Dye Works.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	60,000,000	Gross Block	70,917,524
Forfeited Shares Account	10,127	Less Depreciation	7,423,653
Sundry Liabilities	13,842,198		
		Nett Block-	63,493,871
		Liquid Assets	8,250,681
		Profit and Loss Account	2,107,773
Total	73,852,325	Total	73,852,325

ANALYSIS OF WORKING.

Year ended December	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	-947,813	-291,445	-788,075	2,456,430	-2,107,773
Depreciation	—	—	—	433,940	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	-942,970	-1,234,415	-2,022,490	—	-2,107,773
Highest and lowest price of shares	2 $\frac{3}{4}$ -1 $\frac{1}{2}$	2- $\frac{7}{8}$	1 $\frac{1}{2}$ - $\frac{3}{4}$	1 $\frac{1}{2}$ - $\frac{7}{8}$	1- $\frac{5}{8}$

There is a contingent liability of Rs. 9,000,000 being Preference dividend from 1923 to 1928.

EDWARD SASSOON MILLS, LTD.

45,408 spindles and 928 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital, including Debentures	2,900,000	Gross Block	5,084,906
Reserve Funds	1,001,427	Less Depreciation	1,461,274
Other Funds	14,322		
Sundry Liabilities	1,297,187	Nett Block	3,623,632
		Liquid Assets	1,187,862
		Profit and Loss Account	401,442
Total	5,212,936	Total	5,212,936

ANALYSIS OF WORKING.

Year ended December	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	-147,268*	-192,651†	-164,494†	297,491	-401,442
Depreciation Fund	—	—	—	297,491	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	—	—	—	—	-401,442
Highest and lowest price of shares	220-172 $\frac{1}{2}$	188-107 $\frac{1}{2}$	170-115	152 $\frac{1}{2}$ -115	122 $\frac{1}{2}$ -93 $\frac{3}{4}$

* The net loss Rs. 134,129 was transferred to Equalization of Dividend Fund.

† This loss was written off from Reserve Fund.

ELGIN MILLS CO., LTD.

1,243 looms and 60,000 spindles.

BALANCE SHEET AS ON SEPTEMBER 30, 1929.

	Rs.		Rs.
Capital, including Debentures	4,200,000	Gross Block	5,906,516
Reserve Funds	1,506,023	Less Depreciation	2,722,500
Sundry Liabilities, including Profit and Loss Account..	1,377,690	Nett Block	3,184,016
		Liquid Assets	3,899,697
Total	<u>7,083,713</u>	Total	<u>7,083,713</u>

ANALYSIS OF WORKING.

Half-year ended ..	Sept. 1927	Mar. 1928	Sept. 1928	Mar. 1929	Sept. 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	343,439	183,141	27,897	162,025	231,537
Depreciation	100,000	100,000	100,000*	100,000	100,000
Reserve Funds	95,000	25,000	25,000	25,000	25,000
Dividend	105,000	—	—	—	—
Dividend rate per cent. per annum	10	—	—	—	—
Carried forward	6,661	20,802	23,699	16,724	35,261
Highest and lowest price of shares	100-96	101-97	102-83½	83½-82	82

* This amount was transferred from Reserve Fund.

ELPHINSTONE SPINNING AND WEAVING MILLS CO., LTD.

49,064 spindles and 764 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	5,000,000	Gross Block	6,167,300
Reserve Funds	265,550	Less Depreciation	1,422,176
Sundry Liabilities	845,386	Nett Block.. .. .	4,745,124
		Liquid Assets	1,145,196
		Profit and Loss Account ..	220,616
Total	<u>6,110,936</u>	Total	<u>6,110,936</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	190,494	—54,020	—288,467	244,176	—220,616
Depreciation	190,500	—	—	244,176	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	2,747	51,273	339,740*	—	—220,616
Highest and lowest price of shares	52½-30	32½-20	32½-18½	28-15	18-6

* This sum was written off against Reserve Fund.

N.B.—There is contingent liability of Rs. 962,500 being dividend on cumulative Preference shares for 5½ years, ended March 31, 1929.

FAZULBHOY MILLS, LTD.

52,296 spindles and 1,960 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,800,000	Gross Block	6,406,526
Reserve Funds	3,089,014	Less Depreciation	3,429,310
Other Funds	388,010		
Sundry Liabilities	3,249,918	Nett Block	2,977,216
		Liquid Assets	5,128,639
		Profit and Loss Account ..	421,087
Total	<u>8,526,942</u>	Total	<u>8,526,942</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	369,816	441,020	407,927*	655,708	—578,259
Depreciation	50,000	80,000	92,000	103,000	—
Reserve Funds				—	—
Dividend	324,000	360,000	324,000	396,000	—
Dividend rate per cent. per annum	18	20	18	22	—
Carried forward ..	7,817	8,837	764	157,172	—421,087†
Highest and lowest price of shares	1,080-810	960-735	940-822½	975-877½	886½-733½

* Includes Rs. 131,000 transferred from Dividend Equalization Fund.

† This loss was written off from the Reserve Fund.

FINLAY MILLS, LTD.

46,072 spindles and 812 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	4,000,000	Gross Block	3,821,896
Reserve Funds	304,708	Less Depreciation	2,370,691
Other Funds	25,000		
Sundry Liabilities	262,778	Nett Block	1,451,205
		Liquid Assets	3,086,804
		Profit and Loss Account ..	54,477
Total	<u>4,592,486</u>	Total	<u>4,592,486</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1925	1927	1928	
	Rs.	Rs.	Rs.	Rs.	Rs.	
Profit	289,543	—95,292*	292,678	591,548	—119,895	
Depreciation	149,557	—	150,015	148,794	—	
Reserve Funds	—	—	—	—	—	
Other Funds	—	—	—	—	—	
Dividend	160,000	—	120,000	400,000	—	
Dividend rate per cent. per annum	8	—	3	10	—	
Carried forward ..	4,906	—	22,663	65,417	—54,777*	
Highest and lowest price of shares	770-540	{ 880-740† } { 140-110‡ }		135-115	170-125	167½-110

* This amount was written off against Dividend Equalization Fund.

† Paid up Rs. 250.

‡ Paid up Rs. 100.

FRAMJEE PETIT SPINNING AND MANUFACTURING CO., LTD.

32,584 spindles and 929 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	1,250,000	Block Expenditure ..	3,246,494
Depreciation Funds ..	2,175,704	Liquid Assets	2,567,540
Reserve Funds	550,918	Profit and Loss Account ..	1,138,953
Other Funds	61,707		
Sundry Liabilities ..	2,914,658		
Total	<u>6,952,987</u>	Total	<u>6,952,987</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	— 343,182	— 139,470	72,220	— 139,051	— 115,775
Depreciation	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Other Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	— 816,877	— 956,347	— 884,127	— 1,023,178	— 1,138,953
Highest and lowest price of shares	1,260-1,000	1,025-550	650-500	650-550	600-255

GOKAK MILLS, LTD.

71,944 ring and 1,326 mule spindles.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	3,904,700	Block Expenditure ..	4,952,739
Depreciation Fund ..	2,550,000	Liquid Assets	3,911,936
Reserve Funds	1,004,700		
Sundry Liabilities, including Profit and Loss Account..	1,405,275		
Total	<u>8,864,675</u>	Total	<u>8,864,675</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	541,862	288,877	558,920	469,820	468,151
Depreciation	100,000	50,000	200,000	150,000	100,000
Reserve Funds	—	—	—	—	—
Dividend	390,470	292,852	292,852	292,852	390,470
Dividend rate per cent. per annum	10	7½	7½	7½	10
Carried forward ..	127,327	73,352	139,419	166,387	144,068
Highest and lowest price of shares	125-95	125-97½	123½-105	142½-111½	135-117½

GOLD MOHUR MILLS, LTD.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,500,000	Gross Block	3,505,678
Sundry Liabilities	3,010,222	Less Depreciation	50,000
		Nett Block	3,455,678
		Liquid Assets	2,004,303
		Profit and Loss Account	50,241
Total	<u>5,510,222</u>	Total	<u>5,510,222</u>

ANALYSIS OF WORKING.

Period ended.. ..	Dec. 1928
	Rs.
Profit	— 97,098
Depreciation	—
Reserve Fund	—
Dividend	—
Dividend rate per cent. per annum	—
Carried forward	— 50,241

Under the scheme of reconstruction, The Gold Mohur Mills, Ltd. (old company), went into Voluntary Liquidation on July 12, 1926. The land, buildings, situate at old Dadar Road, Dadar, Bombay, and machinery consisting of 42,472 spindles and 1,046 looms, were purchased from the Liquidators of the old company, and the Gold Mohur Mills, Ltd. (new company) was incorporated on September 1, 1926, with a capital of Rs. 2,500,000.

HINDOOSTAN SPINNING AND WEAVING MILLS CO., LTD.

42,064 spindles and 1,150 looms working.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,200,000	Gross Block	5,994,291
Depreciation Fund	3,257,168	Less Depreciation	500,000
Reserve Funds	1,539,000	Nett Block	5,494,291
Other Funds	50,000	Liquid Assets	2,310,362
Sundry Liabilities, including Profit and Loss Account..	1,758,485		
Total	<u>7,804,653</u>	Total	<u>7,804,653</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	349,466	420,399	390,980	350,044	219,163
Depreciation	141,000	180,000	240,000	195,000	163,000
Reserve Funds	90,000	90,000	—	—	—
Other Funds	—	—	—	—	—
Dividend	120,000	150,000	150,000	120,000	90,000
Dividend rate per cent. per annum	10	12½	12½	10	7½
Carried forward	3,616	4,015	4,995	40,039	6,202
Highest and lowest price of shares	1,000-900	1,800-900	1,760-1,325	2,510-1,760	2,150-1,700

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INDIAN MANUFACTURING CO., LTD.

44,424 spindles and 1,122 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	900,000	Block Expenditure ..	5,885,754
Depreciation Fund ..	2,672,999	Liquid Assets	1,596,529
Reserve Fund	1,750,000		
Other Funds	10,000		
Sundry Liabilities, including Profit and Loss Account..	2,149,284		
Total	<u>7,482,283</u>	Total	<u>7,482,283</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	326,173	291,923	268,957	335,791	29,866
Depreciation Fund ..	253,000	225,000	200,000	246,000	—
Reserve Fund	—	—	—	—	—
Dividend	67,500	67,500	72,000	67,500	40,500
Dividend rate per cent. per annum	7½	7½	8	7½	4½
Carried forward ..	6,146	5,569	2,526	24,817	14,183
Highest and lowest price of shares	1,018-875	1,027,770	1,200-1,000	1,750-1,060	1,875-1,235

INDORE-MALWA UNITED MILLS, LTD.

46,274 spindles and 1,275 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	2,000,000	Gross Block	9,470,080
Reserve Funds	4,025,183	Less Depreciation ..	3,839,928
Other Funds	271,831		
Sundry Liabilities, including Profit and Loss Account..	5,247,730	Nett Block	5,630,152
		Liquid Assets	5,914,592
Total	<u>11,544,744</u>	Total	<u>11,544,744</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	1,185,782	1,083,190	626,101*	853,067	797,196
Depreciation	388,700	356,000	224,000	220,000	161,000
Reserve Funds	75,000	100,000	—	100,000	100,000
Other Funds	75,000	—	10,000	—	125,000
Dividend	650,000	625,000	400,000	525,000	400,000
Dividend rate per cent. per annum	32½	31¼	20	26¼	26¾
Carried forward ..	6,306	8,496	597	8,664	19,861
Highest and lowest price of shares	441-352½	405-308¾	396¼-328¾	396¼-358¾	396¼-356¼

* Includes Rs. 290,000 transferred from the Equalization of Dividend Fund.

JAMSHED MANUFACTURING CO., LTD.

28,768 ring spindles, 2,316 doubling spindles and 520 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital, including Deben- tures	2,332,100	Block Expenditure ..	3,274,725
Depreciation Fund ..	1,292,632	Liquid Assets	749,497
Sundry Liabilities ..	1,172,137	Profit and Loss Account ..	772,647
Total	<u>4,796,869</u>	Total	<u>4,796,869</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	-203,724	-184,556*	-48,934†	-21,448	-179,224
Depreciation	—	—	21,425	21,425	29,646
Reserve Funds ..	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward ..	-265,989	-450,545	-520,904	-563,777	-772,647
Highest and lowest price of shares	165-105	150-60	72½-60	90-50	100-25

* The loss is after transferring Rs. 333,547 from Reserve Fund.

† The loss is after transferring Rs. 50,000 standing to the credit of Dividend Equalization Fund and Rs. 26,961 being unclaimed wages.

There is a contingent liability of Rs. 171,486, being Dividend on cumulative Preference shares for the six years ended December, 1928.

KASTOORCHAND MILLS CO., LTD.

18,379 ring, 13,482 condenser mule and 3,456 waste spindles, besides 46,620 spindles of fine count and 913 looms, in addition to complete raising, dyeing, finishing and oilcloth plants.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital, including Deben- tures	10,974,875	Gross Block	14,382,996
Sundry Liabilities ..	4,674,789	Less Depreciation ..	2,626,015
Total	<u>15,649,664</u>	Nett Block	11,756,981
		Liquid Assets	3,797,295
		Profit and Loss Account ..	95,388
Total	<u>15,649,664</u>	Total	<u>15,649,664</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	-480,934	-1,108,307†	176,851	557,098	-344,337
Depreciation	—	—	—	485,000	—
Reserve Fund	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward ..	-765,859*	-387,017‡	176,851	248,949	-95,388
Highest and lowest price shares	205-120	140-52½§	77½-35	41½-23	23-13

* Written off to Reserve Fund.

† Out of this loss Rs. 721,290 was written off to Reserve Fund.

‡ Written off under Capital Reduction Scheme.

§ Paid up Rs. 50.

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KESORAM COTTON MILLS, LTD.

1,270 looms and 78,536 spindles.

BALANCE SHEET AS ON SEPTEMBER 30, 1929.

	Rs.		Rs.
Capital	8,000,000	Gross Block	10,539,808
Reserve Funds	380,000	Less Depreciation	2,765,578
Sundry Liabilities, including			
Profit and Loss Account..	3,485,050	Nett Block	7,774,230
		Liquid Assets	4,090,820
Total	11,865,050	Total	11,865,050

ANALYSIS OF WORKING.

Half-year ended	Sept. 1927	Mar. 1928	Sept. 1928	Mar. 1929	Sept. 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	672,354	176,959	-33,851	322,452	383,395
Depreciation	683,007*	135,083†	—	225,265	97,428
Reserve Funds	—	—	—	—	125,000
Dividend	—	—	—	—	—
Carried forward	528	42,404	8,553	35,740	56,707
Highest and lowest price					
of shares	4 $\frac{3}{4}$ -3 $\frac{1}{2}$	4 $\frac{3}{8}$ -3 $\frac{1}{4}$	4-2 $\frac{3}{4}$	6-3 $\frac{1}{4}$	6 $\frac{1}{2}$ -4 $\frac{3}{4}$

* Includes Rs. 545,000 value for obsolescence of machinery.

† Includes Rs. 95,000 value for obsolescence of machinery.

N.B.—There is a contingent liability of Rs. 490,000, being arrears of dividend on cumulative Preference shares.

KHATAU MAKANJI SPINNING AND WEAVING CO., LTD.

62,844 spindles and 1,512 looms.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital	2,996,750	Gross Block	10,580,437
Reserve Funds	1,399,996	Less Depreciation	4,317,150
Other Funds	100,000		
Sundry Liabilities, including		Nett Block	6,263,287
Profit and Loss Account..	5,414,511	Liquid Assets	3,647,970
Total	9,911,257	Total	9,911,257

ANALYSIS OF WORKING.

Year ended June	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	17,829	-17,953*	-481,952	233,227	144,089
Depreciation	—	—	—	233,227	144,089
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent.					
per annum	—	—	—	—	—
Carried forward	18,285	327	-481,624†	—	—
Highest and lowest price					
of shares	230-67 $\frac{1}{2}$	117 $\frac{1}{2}$ -75	120-91 $\frac{1}{2}$	100-80	96 $\frac{1}{4}$ -72 $\frac{1}{2}$

* The loss is shown after transferring Rs. 697,442 from Contingency and other Funds, the actual result being a loss of Rs. 715,400.

† This loss was written off to Reserve Fund.

There is a contingent liability of Rs. 240,000, being dividend on cumulative Preference shares up to June 30, 1929.

KOHINOOR MILLS CO., LTD.

68,840 spindles and 1,430 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital, including Debentures	3,000,000	Gross Block	8,087,312
Reserve Funds	2,819,778	Less Depreciation	3,155,794
Sundry Liabilities	2,125,228	Nett Block	4,931,518
		Liquid Assets	2,937,094
		Profit and Loss Account	76,394
Total	<u>7,945,006</u>	Total	<u>7,945,006</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	90,306	-512,806*	82,515	688,090	-76,394
Depreciation	90,306	—	82,515	388,090	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	300,000	—
Dividend rate per cent. per annum	—	—	—	15	—
Carried forward	—	—	—	—	—76,394
Highest and lowest price of shares	1,360-1,000	1,256-800	1,145-850	1,305-1,125† 296¼ 262½‡	300-198½

* This amount was written off to Reserve Fund.

† Paid-up Rs. 500.

‡ Paid-up Rs. 100.

LAKHSHMI COTTON MANUFACTURING CO., LTD.

45,792 spindles and 851 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	1,600,000	Block Expenditure	4,602,740
Reserve Funds	2,948,160	Liquid Assets	8,091,441
Building and Machinery Funds	4,745,990		
Sundry Liabilities, including Profit and Loss Account..	3,400,031		
Total	<u>12,694,181</u>	Total	<u>12,694,181</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	909,346	692,929	823,908	841,766	747,625
Depreciation Fund	100,000	—	3,499	—	—
Reserve Funds	100,000	100,000	100,000	100,000	100,000
Dividend	800,000	720,000	720,000	720,000	576,000
Dividend rate per cent. per annum	50	45	45	45	36
Carried Forward	484,782	357,711	358,120	379,885	451,510*
Highest and lowest price of shares	5,200- 4,300	4,950- 4,550	5,800- 4,725	6,825- 5,750	7,010- 6,735† 1,735- 1,530‡

* Includes provision for taxes.

† Rs. 1,000 paid-up.

‡ Rs. 250 paid-up.

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MADHOWJI DHARAMSI MANUFACTURING CO., LTD.

37,812 spindles and 943 looms, and Ginning and Pressing Factory at Tirupur.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	2,025,000	Gross Block	10,170,080
Reserve Fund	2,819,384	Less Depreciation	2,683,148
Sundry Liabilities	6,339,486		
		Nett Block	7,486,932
		Liquid Assets	3,264,384
		Profit and Loss Account ..	442,554
Total	<u>11,183,870</u>	Total	<u>11,183,870</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	-226,753*	-782,263	19,852	-3,156	-442,554
Depreciation	—	—	19,852	—	—
Reserve Funds	—	—	—	—	—
Dividend or Ordinary shares	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward ..	—	-782,263*	—	-3,156*	-442,554*
Highest and lowest price of shares	426-220	376½-82½	136½-82½	153½-103½	107½-45

* This loss was written off to the Reserve Fund.

There is a contingent liability of Rs. 243,000, being arrears of cumulative dividend on Preference shares for six years ending March 31, 1929.

MADRAS UNITED SPINNING AND WEAVING MILLS CO., LTD.

39,808 spindles and 774 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	500,500	Gross Block	5,797,896
Reserve Funds	2,401,657	Less Depreciation	1,605,067
Other Funds	356,689		
Sundry Liabilities, including Profit and Loss Account..	2,892,300	Nett Block	4,192,829
		Liquid Assets	1,958,317
Total	<u>6,151,146</u>	Total	<u>6,151,146</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	30,672	63,906	20,194	42,896	7,088
Depreciation	—	—	—	88,753	—
Reserve Funds	—	—	—	—	11,894
Dividend	60,060	60,060	60,060	60,060	30,030
Dividend rate per cent. per annum	12	12	12	12	6
Carried forward ..	178,531	182,377	142,511	36,594	1,758
Highest and lowest price of shares	520-650	600-420	515-450	515-477½	500-466½

MADURA MILLS CO., LTD.

As from 1st January, 1924, the Coral Mills Co., Ltd., consisting of 43,736 spindles and with a capital of Rs. 1,500,000, and as from 1st January, 1927, the Tinnevelly Mills Co., Ltd., consisting of 43,076 spindles and with a capital of Rs. 1,200,000, were amalgamated with this company.

In 1929 the Company took over The Pandyan Mill in Madura, consisting of 9,968 spindles, and now controls 371,664 spindles.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	7,058,550	Gross Block	19,957,621
Reserve Funds	16,500,000	Less Depreciation	8,479,948
Other Funds	648,324		
Sundry Liabilities, including		Nett Block	11,477,673
Profit and Loss Account..	2,266,347	Liquid Assets	14,995,548
Total	<u>26,473,221</u>	Total	<u>26,473,221</u>

ANALYSIS OF WORKING.

Period ended	Dec. 1926	June 1927	Mar. 1928†	Sept. 1928	Mar. 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	659,207	1,194,201	1,867,087	1,001,299	1,655,416
Depreciation	254,740	283,029	385,812	290,648	394,165
Reserve Funds .. .	100,000	50,000	363,625	15,350	400,000
Dividend	330,000	847,026	1,129,368	705,855	882,319
Dividend rate per cent.					
per annum	12	24	21½	20	25
Carried forward ..	30,313*	44,459	32,471	22,187	1,119
Highest and lowest price					
of shares	415-380	425-403	409-400	410-400	400-395

* Includes Rs. 28,469, being the balance of Tinnevelly Mills Co., Ltd., for the corresponding period.

† Accounts shown for nine months.

There is a contingent liability of Rs. 895,877 being discount on bills.

MALABAR SPINNING AND WEAVING CO., LTD.

17,696 ring spindles.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	600,000	Gross Block	1,547,896
Reserve Fund	950,000	Less Depreciation	1,213,395
Sundry Liabilities, including			
Profit and Loss Account..	341,248	Nett Block	334,501
		Liquid Assets	1,556,747
Total	<u>1,891,248</u>	Total	<u>1,891,248</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	254,652*	130,667	128,935	146,326†	93,556
Depreciation	63,000	78,496	78,778	79,378	34,689
Reserve Funds	50,000	—	—	—	—
Dividend	120,000	90,000	60,000	60,000	60,000
Dividend rate per cent.					
per annum	20	15	10	10	10
Carried forward ..	55,037	17,208	7,365	14,313	13,180
Highest and lowest price					
of shares	350-265	305-265	325-275	332-300	332-285

* Includes Rs. 212,062 being enhanced price of cotton and yarn since last balance sheet.

† Includes Rs. 40,000 transferred from Dividend Equalization Fund.

MANOCKJEE PETIT MANUFACTURING CO., LTD.

153,360 spindles and 4,683 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	3,609,500	Block Expenditure ..	18,621,207
Depreciation Fund..	13,129,865	Liquid Assets	8,181,188
Reserve Fund	2,686,456	Profit and Loss Account ..	284,107
Other Funds	214,447		
Sundry Liabilities ..	7,446,234		
Total	<u>27,086,502</u>	Total	<u>27,086,502</u>

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	122,167*	1,497,994†	968,885	286,276	284,381
Depreciation Fund ..	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Other Funds	—	—	—	—	—
Dividend	180,475	108,285‡	—	72,190	—
Dividend rate per cent.					
per annum	5	3	—	2	—
Carried forward ..	301,253	1,799,247	213,812§	274	284,107
Highest and lowest price					
of shares	3,100-2,700	2,750-2,100	2,100-1,800	1,852½-1,750	1,775-1,300

* Includes Rs. 315,000 transferred from Reserve Fund.

† Includes Rs. 300,000 transferred from Reserve Fund.

‡ This dividend was paid out of the Commission due to the Managing Agents but foregone by them.

§ This balance is shown after transferring Rs. 2,500,000 from Reserve Fund and Rs. 54,320 from Premium and Discount Fund.

MATHRADAS MILLS, LIMITED.

43,596 spindles and 947 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital including Debentures	3,700,000	Gross Block	4,648,982
Sundry Liabilities	3,608,276	Less Depreciation	842,561
		Nett Block	3,806,421
		Liquid Assets	2,951,911
		Profit and Loss Account ..	549,944
Total	<u>7,308,276</u>	Total	<u>7,308,276</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	645,045*	623,108	319,192	130,774	550,442
Depreciation	—	—	—	130,276	—
Reserve Fund	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent.					
per annum	—	—	—	—	—
Carried forward ..	108,466	731,574	1,050,766†	498	549,944
Highest and lowest price					
of shares	305-200	255-90	160‡-56‡	80-75	60-20

* Out of this loss, Rs. 536,579 was written off to Reserve Fund.

† Written off under the Capital reduction scheme.

‡ Paid up Rs. 500.

‡ Paid up Rs. 50.

MEYER SASSOON MILLS, LTD.

42,312 spindles and 1,038 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital, including Debentures	2,200,000	Gross Block	6,001,239
Reserve Funds	1,289,937	Less Depreciation	1,559,676
Sundry Liabilities	2,503,420	Nett Block	4,441,563
		Liquid Assets	1,086,642
		Profit and Loss Account ..	465,152
Total	<u>5,993,357</u>	Total	<u>5,993,357</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	—71,015	—53,987	—11,063	436,077	—465,152
Depreciation	—	—	—	436,077	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward ..	—47,378*	—53,987	—11,063†	—	—465,152
Highest and lowest price of shares	175—120	137½—95	100—80	92½—80	86¼—70

* This loss was written off from Dividend Equalization Fund.

† This loss was written off from Reserve Fund.

MOHINI MILLS, LTD.

425 looms and 9,424 spindles.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	1,394,269	Gross Block	1,547,921
Reserve Funds	110,000	Less Depreciation	190,269
Sundry Liabilities, including Profit and Loss Account	616,951	Nett Block	1,357,652
		Liquid Assets	763,568
Total	<u>2,121,220</u>	Total	<u>2,121,220</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	73,992	76,345	28,068	70,191	104,111
Depreciation	20,509	36,889	22,871	39,821	26,685
Reserve Funds	5,000	40,000	5,000	30,000	65,000
Dividend	51,415	—	—	—	—
Dividend rate per cent. per annum	6¼	—	—	—	—
Carried forward ..	544	Nil*	197	567	12,993
Highest and lowest price of shares	6¾—5	6¾—5½	6½—5¾	6½—6¼	6¼

* Balance transferred to Reserve Fund.

MORARJEE GOCULDAS SPINNING AND WEAVING CO., LTD.

82,532 spindles and 1,607 looms.

BALANCE SHEET AS ON JUNE 30, 1928.

	Rs.		Rs.
Capital	1,150,000	Gross Block	14,294,247
Reserve Fund	4,788,441	Less Depreciation	1,781,223
Depreciation Fund	5,389,319		
Other Funds	450,000	Nett Block	12,513,024
Sundry Liabilities	7,748,161	Liquid Assets	6,982,671
		Profit and Loss Account	30,226
Total	19,525,921	Total	19,525,921

ANALYSIS OF WORKING.

Year ended June ..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit ..	421,309	571,153	65,040	—158,669	—21,989
Depreciation	275,000	378,264	3,136	14,818	8,237
Reserve Funds	—	—	—	—	—
Other Funds	—	—	—	—	—
Dividend ..	143,750	155,250	69,000	—	—
Dividend rate per cent. per annum	12½	13½	6	—	—
Carried forward	21,386	59,025	51,929	—121,558*	—30,226
Highest and lowest price of shares .	4,150-2,535	2,900-2,000	2,725-2,000	2,300-2,050	2,400-1,555

* This amount was written off out of the Reserve Fund.

MUIR MILLS CO., LTD.

79,736 spindles and 1,554 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	3,000,000	Gross Block	7,665,899
Reserve Funds	5,000,000	Less Depreciation	4,608,516
Other Funds	504,939		
Sundry Liabilities, including		Nett Block	3,057,383
Profit and Loss Account ..	2,300,563	Liquid Assets	7,748,119
Total	10,805,502	Total	10,805,502

ANALYSIS OF WORKING.

Year ended December ..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	846,703	1,035,199	1,206,837	1,406,472	821,610
Depreciation	100,000	150,000	200,000	200,000	100,000
Reserve Funds	—	—	—	—	—
Other Funds	—	20,000	25,000	30,000	25,000
Dividend	750,000	750,000	900,000	975,000	825,000
Dividend rate per cent. per annum	50	50	60	65	55
Carried forward	352,780	377,979	369,816	481,288	262,898
Highest and lowest price of shares	263-210	285-220	293-260	355-312	350-305

NEW CITY OF BOMBAY MANUFACTURING CO., LTD.

43,128 spindles and 416 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	600,000	Gross Block	3,647,480
Reserve Funds	154,010	Less Depreciation	1,540,529
Other Funds	100,000		
Sundry Liabilities	2,029,497	Nett Block	2,106,951
		Liquid Assets	776,556
Total	2,883,507	Total	2,883,507

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	108,186*	335,790	196,458	37,618	170,750
Depreciation Fund	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Other Funds	—	—	—	—	—
Dividend	60,000	—	—	—	—
Dividend rate per cent. per annum	10	—	—	—	—
Carried forward	50,062	285,728	482,186†	37,618	208,368
Highest and lowest price of shares	400-255	325-190	225-120	175-120	133 $\frac{3}{4}$ -80

* Includes Rs. 141,082 transferred from Reserve Fund.

† This loss was written off to the Reserve Fund.

NEW GREAT EASTERN SPINNING AND WEAVING CO., LTD.

49,668 spindles and 1,034 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,300,000	Gross Block	6,058,110
Reserve Funds	966,663	Less Depreciation	3,156,449
Other Funds	225,043		
Sundry Liabilities	1,413,836	Nett Block.. ..	2,901,661
		Liquid Assets	2,003,881
Total	4,905,542	Total	4,905,542

ANALYSIS OF WORKING.

Year ended December..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	190,968	50,203*	96,518	287,729	180,907†
Depreciation	122,500	—	—	124,250	—
Reserve Funds	—	—	—	75,000	—
Other Funds	—	—	—	—	—
Dividend	75,000	—	—	75,000	—
Dividend rate per cent. per annum	5	—	—	5	—
Carried forward	8,051	14,254	66,772	36,251	—
Highest and lowest price of shares	550-285	471 $\frac{1}{4}$ -237 $\frac{1}{2}$	377 $\frac{1}{2}$ -280	350-300	318 $\frac{3}{4}$ -221 $\frac{1}{4}$

* Includes Rs. 40,000 transferred from Reserve for Income and other taxes to pay Preference Dividend Rs. 44,000.

† This loss was written off to the Reserve Fund and Preference Dividend for the year ended December, 1928, was paid from Reserve for Income and other taxes fund.

NEW RING MILL CO., LTD.

23,904 spindles.

BALANCE SHEET AS ON JUNE 30, 1929.

	Rs.		Rs.
Capital	600,000	Gross Block	1,828,764
Reserve Funds	947,574	Less Depreciation	1,134,913
Sundry Liabilities	27,103		
		Nett Block	693,851
		Liquid Assets	444,090
		Profit and Loss Account ..	436,736
Total	<u>1,574,677</u>	Total	<u>1,574,677</u>

ANALYSIS OF WORKING.

Half-year ended ..	June 1927	Dec. 1927	June 1928	Dec. 1928	June 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	18,518	38,030	—57,491	—43,580	125
Depreciation	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	—373,820	—335,790	—393,281	—436,861	—436,736
Highest and lowest price of shares	301-270	290-270	270-200	230-110	170-110

N.B.—There is a contingent liability in respect of dividend on Preference shares from July, 1925.

NEW VICTORIA MILLS CO., LTD.

103,938 spindles and 1,625 looms.

BALANCE SHEET AS ON SEPTEMBER 30, 1929.

	Rs.		Rs.
Capital	13,500,000	Gross Block	11,650,289
Reserve Fund	50,000	Less Depreciation	1,452,759
Other Funds	73,932		
Sundry Liabilities	368,269	Nett Block	10,197,530
		Liquid Assets	2,561,940
		Profit and Loss Account ..	1,232,731
Total	<u>13,992,201</u>	Total	<u>13,992,201</u>

ANALYSIS OF WORKING.

Period ended ..	June 1926*	Sept. 1926†	Sept. 1927	Sept. 1928	Sept. 1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	—847,692	90,740	595,198	—302,972	261,161
Depreciation	—	—	—	—	—
Reserve Fund	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum	—	—	—	—	—
Carried forward	—1,876,859	—1,786,119	—1,190,921	—1,493,893	—1,232,731
Highest and lowest price of shares ..	3 $\frac{3}{8}$ -1 $\frac{1}{4}$	2-1 $\frac{1}{4}$	2 $\frac{3}{4}$ -1 $\frac{1}{2}$	3-2	3 $\frac{3}{8}$ -2 $\frac{1}{8}$

* Accounts shown for 15 months.

† Accounts shown for three months.

N.B.—There is a contingent liability in respect of cumulative dividend on Preference shares since September 30, 1922.

PEARL MILLS, LIMITED.

53,820 spindles and 1,760 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,997,000	Gross Block	5,963,647
Reserve Funds	2,143,825	Less Depreciation	1,992,755
Other Funds	391,658		
Sundry Liabilities	3,527,509	Nett Block	3,970,892
		Liquid Assets	3,630,043
		Profit and Loss Account	459,057
Total	<u>8,059,992</u>	Total	<u>8,059,992</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	244,567	215,527*	300,413†	592,582	—613,634
Depreciation	70,000	59,000	152,000	163,200	—
Reserve Funds	—	—	—	—	—
Dividend	175,736	159,760	143,784	279,580	—
Dividend rate per cent. per annum	8·8	8	7·2	14	—
Carried forward	3,334	146	4,775	154,577	—459,057
Highest and lowest price of shares	624-472	562½-387½	563¾-45¼	631-570	587½-462

* Includes Rs. 63,904 transferred from Dividend Equalization Fund.

† Includes Rs. 6,048 transferred from Dividend Equalization Fund.

PHOENIX MILLS, LIMITED.

12,644 mule and 38,856 ring spindles and 696 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	800,000	Block Expenditure	4,528,402
Depreciation Fund	1,794,161	Liquid Assets	2,946,708
Reserve Fund	3,794,331		
Other Funds	129,632		
Sundry Liabilities, including Profit and Loss Account	956,986		
Total	<u>7,475,110</u>	Total	<u>7,475,110</u>

ANALYSIS OF WORKING.

Year ended December ..	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	271,183	—37,333	188,408*	449,989	118,660*
Depreciation	130,000	—	99,953	101,500	107,149
Reserve Funds	—	—	—	80,000	—
Dividend	240,000	—	80,000	200,000	80,000
Dividend rate per cent. per annum	30	—	10	25	10
Carried forward	28,878	—8,455	—	68,489	—
Highest and lowest price of shares	600-415	585-400	465-366¼	447½-390	442½-355

* The Profit is shown after transferring Rs. 80,000 from the Equalization of Dividend Fund.

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RAMCHAND GURSAHAIMAL COTTON MILLS CO., LTD.

17,888 spindles and 250 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital, including Debentures	1,139,440	Gross Block	1,596,325
Reserve Funds	230,380	Less Depreciation	526,334
Other Fund	12,191	Nett Block	1,069,991
Sundry Liabilities	78,116	Liquid Assets	389,732
		Profit and Loss Account ..	404
Total	<u>1,460,127</u>	Total	<u>1,460,127</u>

ANALYSIS OF WORKING.

Year ended December..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	66,253*	17,476	108,036†	155,054	—15,887
Depreciation	68,962	—	106,558	54,860	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	20,000	—
Dividend rate per cent. per annum	—	—	—	4	—
Carried forward	424	17,900	691	15,483	404

* Includes Rs. 40,000 transferred from Dividend Equalization Fund.

† Includes Rs. 13,000 transferred from Dividend Equalization Fund.

SASSOON SPINNING AND WEAVING CO., LTD.

60,240 spindles and 1,254 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,250,000	Gross Block	9,462,574
Sundry Liabilities	5,743,356	Less Depreciation	4,696,348
		Nett Block	4,766,226
		Liquid Assets	1,623,902
		Profit and Loss Account ..	1,603,228
Total	<u>7,993,356</u>	Total	<u>7,993,356</u>

ANALYSIS OF WORKING.

Year ended Dec...	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	—710,225	—423,134	—241,771	137,409	—322,534
Depreciation	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent. per annum.	—	—	—	—	—
Carried forward ..	753,198	1,176,332	1,418,103	1,280,694	1,603,228
Highest and lowest price of shares..	65-37½	65-22	32½-11	22-10½	15-9

SHOLAPOOR SPINNING & WEAVING CO., LTD.

115,152 spindles and 2,172 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	800,000	Gross Block	26,240,640
Depreciation Fund	822,702	Less Depreciation	8,531,060
Reserve Funds	9,383,000		
Other Funds	899,605	Nett Block	17,709,580
Sundry Liabilities, including		Liquid Assets	11,865,519
Profit and Loss Account..	17,669,792		
Total	<u>29,575,099</u>	Total	<u>29,575,099</u>

ANALYSIS OF WORKING.

Year ended					
March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	1,446,305	997,398	567,798	795,268	375,965†
Depreciation	570,000	500,000	250,000	350,000	150,000
Reserve Fund	100,000	7,281	—	—	—
Other Funds	75,000	—	—	—	50,000
Dividends	800,000	560,000	420,000	420,000	280,000
Dividend rate					
per cent. per					
annum	100*	70	52½	52½	35
Carried fwd..	339,342	269,460	167,258	192,526	88,491
Highest and					
lowest price					
of shares ..	10,500-9,600	10,600-7,100	8,820-7,200	8,800-7,850	7,850-5,500

* Includes Bonus.

† Includes Rs. 175,000 transferred from Reserve Fund.

SIMPLEX MILL CO., LTD.

37,208 spindles and 1,357 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital, including Deben-		Block Expenditure ..	6,297,657
tures	5,250,000	Liquid Assets	1,206,670
Depreciation Fund	1,458,099	Profit and Loss Account ..	338,715
Reserve Fund	655,190		
Sundry Liabilities	479,753		
Total	<u>7,843,042</u>	Total	<u>7,843,042</u>

ANALYSIS OF WORKING.

Year ended March ..	1925	1926	1927	1928	1929
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	128,589	--149,564*	50,225	112,121	--386,913
Depreciation	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Dividend	—	—	—	—	—
Dividend rate per cent.					
per annum	—	—	—	—	—
Carried forward	35,416	--114,148	--63,923	48,198	--338,715
Highest and lowest price					
of shares	285-190	205-90	171½-110	212½-171½	175-65

* The loss is shown after transferring Rs. 80,000 from Unclaimed Wages.

SIR SHAPURJI BROACHA MILLS, LTD.

97,284 spindles and 1,111 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital, including Debentures	9,001,195	Gross Block	15,018,028
Sundry Liabilities	13,112,457	Less Depreciation	1,571,889
		Nett Block	13,446,139
		Liquid Assets	3,729,169
		Profit and Loss Account ..	4,938,344
Total	<u>22,113,652</u>	Total	<u>22,113,652</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit ..	-1,054,410	-1,440,113†	-1,343,200	-929,017	-1,226,014
Depreciation	—	—	—	—	—
Reserve Funds	—	—	—	—	—
Dividend (Ordinary) ..	—	—	—	—	—
Ordinary Dividend rate per cent. per annum ..	—	—	—	—	—
Carried fwd.	-1,218,685*	-1,440,113†	-2,783,313	-3,712,330	4,938,344
Highest and lowest price of shares ..	416-97½	107½-47½	50-23¾	33¾-10	18 8

* This loss was written off to the Reserve Fund.

† The loss is shown after transferring Rs. 324,972 from Reserve Fund, the actual loss being Rs. 1,765,085.

There is a contingent liability in respect of arrears of dividend on Preference shares for six years from April 1, 1923.

SWADESHI MILLS CO., LTD.

79,300 spindles and 2,433 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,000,000	Block Expenditure ..	9,886,806
Depreciation Fund ..	5,073,737	Liquid Assets	8,784,380
Reserve Funds	3,601,871	Profit and Loss Account ..	52,523
Other Funds	2,536,970		
Sundry Liabilities ..	5,475,131		
Total	<u>18,687,709</u>	Total	<u>18,687,709</u>

ANALYSIS OF WORKING.

Year ended December ..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	906,924	690,720	734,943*	794,815†	-54,472
Depreciation Fund ..	200,000	200,000	200,000	200,000	—
Reserve Funds	—	—	—	—	—
Other Funds	70,000	—	—	—	—
Dividend	680,000	680,000	640,000	600,000	400,000‡
Dividend rate per cent. per annum	34	34	32	30	20
Carried forward ..	301,469	112,189	7,133	1,948	-52,523
Highest and lowest price of shares	640-455	650-411¼	517½-442½	555-498¾	533¾-451¼

* Includes Rs. 80,000 transferred from Dividend Equalization Fund.

† Includes Rs. 125,000 transferred from Dividend Equalization Fund.

‡ This amount was paid from Dividend Equalization Fund.

SWADESHI COTTON MILLS CO., LTD.

45,000 spindles and 820 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	3,500,000	Gross Block	6,605,120
Reserve Funds	1,935,000	Less Depreciation	2,036,270
Sundry Liabilities, including			
Profit and Loss Account..	2,141,226	Nett Block	4,568,850
		Liquid Assets	3,007,376
Total	<u>7,576,226</u>	Total	<u>7,576,226</u>

ANALYSIS OF WORKING.

Year ended	1927	1928
	Rs.	Rs.
Profit	1,038,836	660,149
Depreciation	281,230	301,202
Reserve Funds	435,000	—
Other Funds	—	—
Ordinary Dividend	175,000	175,000
Ordinary Dividend rate per cent. per annum	10	10
Carried forward	134,467	213,413
Highest and lowest price of shares	100	100

SWAN MILLS, LTD.

31,450 spindles and 604 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,400,000	Gross Block	2,399,703
Reserve Fund	123,097	Less Depreciation	1,050,400
Other Funds	25,000		
Sundry Liabilities	1,268,197	Nett Block	1,349,303
		Liquid Assets	2,377,996
		Profit and Loss Account ..	88,995
Total	<u>3,816,294</u>	Total	<u>3,816,294</u>

ANALYSIS OF WORKING.

Year ended December	1924	1925	1926	1927	1928
	Rs.	Rs.	Rs.	Rs.	Rs.
Profit	210,498	265,115	67,332	310,087	150,682
Depreciation	74,074	—	—	75,732	—
Reserve Funds	—	—	—	—	—
Other Funds	—	—	—	—	—
Dividend	200,000	—	—	240,000	—
Dividend rate per cent.					
per annum	20	—	—	10	—
Carried forward	38,213	226,902*	67,332	61,687	88,995*
Highest and lowest					
price of shares	1,025-700	{ 1,300-1,090† 167½-130		170-145	160½-116½
		{ 175-150‡			

* This amount was written off against Reserves.

† Paid up Rs. 250.

‡ Paid up Rs. 100.

TATA MILLS, LTD.

63,248 spindles and 1,800 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital, including Debentures	7,898,550	Block Expenditure ..	8,769,248
Sundry Liabilities	4,076,257	Liquid Assets	1,935,366
		Profit and Loss Account ..	1,270,193
Total	<u>11,974,807</u>	Total	<u>11,974,807</u>

ANALYSIS OF WORKING.

Year ended December	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit ..	1,277,270	1,287,991	63,598	223,532	556,525
Depreciation Fund ..	—	—	—	—	—
Reserve Fund ..	—	—	—	—	—
Other Funds ..	—	—	—	—	—
Dividend (Preference) ..	—	—	—	—	—
Dividend (Ordinary) ..	—	—	—	—	—
Dividend rate per cent. per annum ..	—	—	—	—	—
Carried fwd..	1,215,016	2,503,007	2,439,409	2,215,877*	1,270,193
Highest and lowest price of shares ..	365-145	240-42½	125-72½	121½-81	121½-81

* Out of this balance Rs. 1,502,210 was written off during reduction of Capital leaving Rs. 713,667 to be carried forward.

VISHNU COTTON MILL, LTD.

48,308 spindles and 1,254 looms.

BALANCE SHEET AS ON DECEMBER 31, 1928.

	Rs.		Rs.
Capital	2,400,000	Block Expenditure ..	6,631,333
Depreciation Fund	5,866,774	Liquid Assets	5,831,618
Reserve Fund	830,270		
Sundry Liabilities, including Profit and Loss Account ..	3,365,907		
Total	<u>12,462,951</u>	Total	<u>12,462,951</u>

ANALYSIS OF WORKING.

Year ended Dec. ..	1924 Rs.	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.
Profit	900,765	755,224	875,208	889,670	640,055
Depreciation and Other Funds ..	402,000	301,500	303,000	300,000	200,000
Dividend Reserve Fund	—	—	—	—	—
Dividend on Ordinary shares ..	480,000	480,000	480,000	480,000	384,000
Dividend rate per cent. per annum ..	30	30	30	30	24
Carried forward ..	208,459	126,183	162,391	216,061	216,116
Highest and lowest price of shares ..	1,970-1,600	1,850-1,520	2,410-535	3,175-2,005	3,250-1,735

WESTERN INDIA SPINNING AND MANUFACTURING CO., LTD.

41,760 spindles and 977 looms.

BALANCE SHEET AS ON MARCH 31, 1929.

	Rs.		Rs.
Capital	1,200,000	Block Expenditure ..	5,097,642
Depreciation Fund ..	2,685,529	Liquid Assets	1,758,048
Reserve Fund	1,300,430		
Sundry Liabilities, including Profit and Loss Account..	1,669,731		
Total	<u>6,855,690</u>	Total	<u>6,855,690</u>

ANALYSIS OF WORKING.

Year ended March ..	1925 Rs.	1926 Rs.	1927 Rs.	1928 Rs.	1929 Rs.
Profit	257,058	221,743	223,859	191,116	78,898
Depreciation	149,000	160,000	165,000	123,000	42,000
Reserve Funds	—	—	—	—	—
Dividend	48,000	60,000	60,000	60,000	36,000
Dividend rate per cent. per annum	4	5	5	5	3
Carried forward ..	1,332	3,075	1,934	10,050	10,948
Highest and lowest price of shares	600-500	740-500	990-710	1,222½-900	1,960-860



FACTORY REGULATIONS RELATING TO HUMIDITY IN WEAVING SHEDS.

General Department Regulations (Bombay Castle, 19th March, 1927).

No. 4824-D.—In exercise of the powers conferred by clause (g) of sub-section (2) of section 37 of the Indian Factories Act, 1911 (XII of 1911), the Governor in Council is pleased to amend the Factories (Amended) Rules, Bombay, 1923, published in Government notification, General Department, No. 2343-B.,* dated the 1st July, 1923, as follows, namely:—

(1) To rule 2 of the said rules the following clauses shall be added, namely:—

(f) Artificial humidification means humidification of the air of a room by any artificial means whatsoever except the use of gas or oil for lighting purposes, or the unavoidable escape of steam or water vapour into the atmosphere directly due to the treatment of fibre by water or steam in its passage through a machine.

Provided that the introduction of air directly from outside through moistened mats or screens placed in ventilation openings at times when the temperature of the room is 80 degrees or more shall not be deemed to be artificial humidification.

(g) Hygrometer means an accurate wet and dry bulb hygrometer conforming to the prescribed conditions as regards construction and maintenance.

(h) Degrees (of temperature) mean degrees of the Fahrenheit scale.

(2) After rule 20 of the said rules the following rules shall be inserted, namely:—

20A. There shall be no artificial humidification in any room of a cotton spinning or weaving factory

(a) at any time when the wet bulb reading of the hygrometer is higher than that specified in the following schedule in relation to the dry bulb reading of the hygrometer at that time; or, as regards a dry bulb reading intermediate between any two dry bulb readings indicated consecutively in the Schedule when the dry bulb reading does not exceed the wet bulb reading to the

* Printed at pages 1484-1527 of Part I of the *Bombay Government Gazette* dated July 12, 1923.

extent indicated in relation to the lower of those two dry bulb readings:—

Schedule

Dry bulb	Wet bulb	Dry bulb	Wet bulb
60·0	58·0	90·0	84·5
61·0	59·0	91·0	85·0
62·0	60·0	92·0	85·5
63·0	61·0	93·0	86·0
64·0	62·0	94·0	86·5
65·0	63·0	95·0	87·0
66·0	64·0	96·0	87·5
67·0	65·0	97·0	88·0
68·0	66·0	98·0	88·5
69·0	67·0	99·0	89·0
70·0	68·0	100·0	89·5
71·0	69·0	101·0	90·0
72·0	70·0	102·0	90·0
73·0	71·0	103·0	90·5
74·0	72·0	104·0	90·5
75·0	73·0	105·0	91·0
76·0	74·0	106·0	91·0
77·0	75·0	107·0	91·5
78·0	76·0	108·0	91·5
79·0	77·0	109·0	92·0
80·0	78·0	110·0	92·0
81·0	79·0	111·0	92·5
82·0	80·0	112·0	92·5
83·0	80·5	113·0	93·0
84·0	81·0	114·0	93·0
85·0	82·0	115·0	93·5
86·0	82·5	116·0	93·5
87·0	83·0	117·0	94·0
88·0	83·5	118·0	94·0
89·0	84·0	119·0	94·5
		120·0	95·0

Provided, however, that this rule shall not apply when the difference between the wet bulb temperature, as indicated by the hygrometer in the department concerned, and the wet bulb temperature taken with a hygrometer outside in the shade is less than 3·5 degrees.

20B. In all departments of cotton spinning and weaving mills wherein artificial humidification is adopted hygrometers shall be provided and maintained in such positions as are approved by the inspector. The number of hygrometers shall be regulated according to the following scale:—

(a) *Weaving Department*.—One hygrometer for departments with less than 500 looms, and one additional hygrometer for every 500 or part of 500 looms in excess of 500.

(b) *Other Departments*.—One hygrometer for each room of less than 200,000 cubic feet capacity, and one extra hygrometer for each 200,000 cubic feet, or part thereof, in excess of this.

Provided also that one hygrometer shall be provided and maintained outside each cotton spinning and weaving factory wherein artificial humidification is adopted, and in a position approved by the inspector, for taking hygrometer shade readings.

20C. When satisfied that the limits of humidity allowed by the Schedule to Rule 20A are never exceeded, the inspector may, for any department other than the weaving department, grant exemption from the maintenance of the hygrometer. The inspector shall record such exemption in form J.

20D. A legible copy of the Schedule to Rule 20A shall be affixed near each hygrometer.

20E. At each hygrometer, maintained in accordance with Rule 20B, correct wet and dry bulb temperatures shall be recorded thrice daily during each working day by competent persons nominated by the manager and approved by the inspector. The temperatures shall be taken between 7 a.m. and 9 a.m., between 11 a.m. and 2 p.m. (but not in the rest interval), and between 4 p.m. and 5.30 p.m. In exceptional circumstances, such additional readings, and between such hours as the inspector may specify, shall be taken. The temperatures shall be entered in a humidity register in Form G-1 maintained in the factory. At the end of each month the persons who have taken the readings shall sign the register and certify the correctness of the entries. The register shall always be available for inspection by the inspector.

20F. (a) Each hygrometer shall comprise two mercurial thermometers respectively wet bulb and dry bulb of similar construction, and equal in dimensions, scale and divisions of scale. They shall be mounted on a frame with a suitable reservoir containing water.

(b) The wet bulb shall be closely covered with a single layer of muslin, kept wet by means of wick attached to it and dipping into the water in the reservoir. The muslin covering and the wick shall be suitable for the purpose, clean and free from size or grease.

(c) No part of the wet bulb shall be within 3 inches from the dry bulb or less than 1 inch from the surface of the water in the reservoir, and the water reservoir shall be below it, on the side of it away from the dry bulb.

(d) The bulbs shall be spherical and of suitable dimensions and shall be freely exposed on all sides to the air of the room.

(e) The bores of the stems shall be such that the position of the top of the mercury column shall be readily distinguishable at a distance of 2 feet.

(f) Each thermometer shall be graduated so that accurate readings may be taken between 50 and 120 degrees.

(g) Every degree from 50 degrees up to 120 degrees shall be clearly marked by horizontal lines on the stem; each fifth and tenth degree shall be marked by longer marks than the intermediate degrees, and the temperature marked opposite each tenth degree, *i.e.*, 50, 60, 70, 80, 90, 100, 110 and 120.

(h) The markings as above shall be accurate, that is to say, at no temperature between 50 and 120 degrees shall the indicated reading be in error by more than two-tenths of a degree.

(i) A distinctive number shall be indelibly marked upon the thermometer.

(j) The accuracy of each thermometer shall be certified by the National Physical Laboratory, London, or some competent authority appointed by the Chief Inspector of Factories, and such certificate shall be attached to the humidity register.

20G. Each thermometer shall be maintained at all times during the period of employment in efficient working order, so as to give accurate indications and in particular—

(a) The wick and the muslin covering of the wet bulb shall be renewed once a week.

(b) The reservoir shall be filled with water which shall be completely renewed once a day. The Chief Inspector of Factories may prescribe the use of distilled water or pure rain water in any particular mill or mills in certain localities.

(c) No water shall be applied directly to the wick or covering during the period of employment.

20H. If an inspector gives notice in writing that a thermometer is not accurate, it shall not, after one month from the date of such notice, be deemed to be accurate unless and until it has been re-examined as above and a fresh certificate obtained, which certificate shall be kept attached to the humidity register.

20I. No hygrometer shall be affixed to a wall, pillar or other surface unless protected therefrom by wood or other non-conducting material at least half an inch in thickness and distant at least one inch from the bulb of each thermometer.

20J. No readings shall be taken for record on any hygrometer within 15 minutes of the renewal of water in the reservoir.

(3) After form R appended to the said rules the following form shall be inserted, namely:—

FORM G-1.

HUMIDITY REGISTER.

Department:—

Hygrometer

distinctive mark or number.

position in department.

Readings of Hygrometer								
Date Year Month Day	Between 7 and 9 a.m.		Between 11 a.m. and 2 p.m. (but not in the rest period)		Between 4 and 5-30 p.m.		If no humidity insert none	Remarks
	Dry bulb	Wet bulb	Dry bulb	Wet bulb	Dry bulb	Wet bulb		

FACTORY REGULATIONS RELATING TO EMPLOYMENT OF WOMEN.

An act to regulate the employment of women in factories some time before and some time after confinement, and to provide for maternity benefit to them.

Extract from Bombay Act No. VII of 1929.

4. After this Act comes into operation—

Employment of or work by women in factories prohibited during certain period.—(1) No employer shall knowingly employ a woman in any factory during the four weeks immediately following the day of her delivery; and

(2) No woman shall work in any factory during the four weeks immediately following the day of her delivery.

5. *Right to payment of maternity benefit.*—(1) Subject to the provisions of this Act, every woman employed in a factory shall be entitled to the payment of maternity benefit at the rate of eight annas a day for the actual days of her absence for the period immediately preceding her confinement and for the four weeks immediately following her confinement as mentioned in sub-section (2):

Provided that a woman shall not be entitled to maternity benefit unless she has been employed in the factory of the employer from whom she claims maternity benefit for a period of not less than six months immediately preceding the date on which she notifies her intention under sub-section (1) of section 6.

(2) The maximum period for which any woman shall be entitled to the payment of maternity benefit shall be seven weeks, that is to say, three weeks up to and including the day of her delivery and four weeks immediately following that day. If a woman dies during this period the maternity benefit shall be payable only for the days up to and including the day of her death.

6. *Procedure regarding payment of maternity benefit.*—(1) Any woman employed in a factory and entitled to maternity benefit under the provisions of this Act, who is pregnant, may, on any day, give notice in writing to her employer stating that she expects to be confined within one month next following, that her maternity benefit may be paid to her, and that she will not work in any employment during the period for which she receives maternity benefit.

(2) The employer shall thereupon permit such woman to absent herself from the factory from the following day until four weeks after the day of her delivery.

(3) The amount of maternity benefit for the period up to and including the day of delivery shall be paid by the employer to the woman within 48 hours of the production of a certified extract from a birth register stating that the woman has given birth to a child. The amount due for the subsequent period shall be paid punctually each fortnight in arrear.

7. *Payment of maternity benefit in case of a woman's death.*—If a woman entitled to maternity benefit under this Act dies during the period for which she is entitled to maternity benefit the employer shall pay the amount of maternity benefit due, if the newly born child survives her, to the person who undertakes the care of the child; and if the child does not survive her to her legal representative.

8. *No notice of dismissal to be given to a woman during period of maternity benefit.* When a woman absents herself from work in accordance with the provisions of this Act it shall not be lawful for her employer to give her notice of dismissal during such absence or on such a day that the notice will expire during such absence.

9. *Forfeiture of maternity benefit.*—If a woman works in any factory after she has been permitted by her employer to absent herself under the provisions of section 6 she shall forfeit her claim to the payment of the maternity benefit to which she is entitled.

10. *Penalty for contravention of the Act by an employer.*—If any employer contravenes the provisions of this Act he shall, on conviction, be liable to a fine which may extend to 500 rupees.

11. *Penalty for contravention of the Act by a woman.*—If any woman works in any factory within four weeks of the date of her delivery she shall be liable, on conviction, to a fine not exceeding 10 rupees.

12. *Cognisance of offences.*—(1) No prosecution under this Act shall be instituted except by or with the previous sanction of the Inspector of Factories.

ARBITRATION RULES OF THE BOMBAY CHAMBER OF COMMERCE.

BY-LAWS OF THE BOMBAY CHAMBER OF COMMERCE TO REGULATE THE ARBITRATION OF COMMERCIAL DISPUTES BY THE CHAMBER.

1. In these By-Laws and in the Schedule annexed hereto—

- (1) "The Chamber" means the Chamber of Commerce, Bombay.
- (2) "The Committee" means the Committee for the time being of the Chamber.
- (3) "The Secretary" means the Secretary for the time being of the Chamber.

2. The Committee shall, as and when necessary, make a list of such members, assistants to members, and other persons as shall, in the opinion of the Committee, be qualified and as shall have signified their willingness to act as arbitrators and/or umpires, and may add to or withdraw names from such list at their discretion.

3. When two members of the Chamber, or when one member and a party who is not a member, or when two parties who are not members have agreed to refer disputes to arbitration under the rules of Chamber, the Committee will upon receipt of (1) the contract or true copy thereof under which the submission is made and (2) a requisition on the form which may from time to time be prescribed by the Committee, forthwith appoint, through the Secretary, two arbitrators to act accordingly.

4. The appointment of the arbitrators shall be recorded on a form prescribed by the Committee and notice that the appointment has been made shall be given to both parties by the Secretary. Such notice shall not include the names of the arbitrators who have been appointed.

5. Prior to accepting appointment, arbitrators shall not be given any details of the names of the parties, but only the nature of the goods concerned in the dispute, in which they are invited to act as arbitrators.

6. If the arbitrators fail to make their award within the prescribed time or fail to agree upon their award, or if the arbitrators make an award upon part only of the subject matter of the reference, then and in any of the said cases the Committee shall appoint an umpire to enter on the reference in lieu of the arbitrators. The appointment of an umpire shall be recorded on a form prescribed by the Committee, and notice that the appointment has been made shall be given by the Secretary to the parties to the dispute, and to the arbitrators. These notices shall not include the name of the umpire.

7. If an arbitrator or umpire decline or fail to act or if he die or become incapable of acting, the Committee may substitute and appoint a new arbitrator or umpire in accordance with the provisions of the Indian Arbitration Act.

8. Where the requisition for the appointment of arbitrators is signed by one party only under a contract which includes a clause referring disputes to arbitration under the rules of the Chamber, the Secretary shall give notice of the receipt of such requisition to the other party, and if such other party shall fail for seven clear days after the receipt of such notice to sign a requisition for the appointment of arbitrators the Committee will forthwith appoint, through the Secretary, one arbitrator to act as sole arbitrator in the reference and his award shall be binding on both parties as if he had been appointed by consent. During the said period of seven days the party in default shall be at liberty to submit particulars in writing of his contentions in regard to the dispute. The Committee may, at their discretion, enlarge the time for the appointment of a sole arbitrator or for submission of particulars.

9. Arbitrations under these rules shall be held in the rooms of the Chamber or at such other place as the arbitrators may decide and shall be conducted in accordance with the statutory provisions for the time being in force relating to arbitrations.

10. Only such oral evidence, if any, as the arbitrators may consider necessary will be taken.

11. All awards made by the arbitrators or an umpire appointed by the Chamber shall be as nearly as circumstances admit in forms prescribed by the Committee.

12. Upon receipt of an award of arbitrators or of an umpire the Secretary shall countersign it in token of the Chamber's authentication thereof. He shall forthwith give notice to both parties of the making and signing of the award and shall supply to each party a copy of the award, but the names or name of the arbitrators or umpire shall not be disclosed on such copy and such non-disclosure shall not affect the validity of the award.

13. If either party to the submission request that the award be filed in Court, and if the said party pay the costs and charges of so filing the award, the Secretary shall forthwith cause the award or a signed copy thereof to be so filed. The Secretary shall simultaneously give notice to the parties of the filing of the award.

14. The fees payable to the Chamber in respect of any arbitration held under the foregoing By-laws shall be in accordance with the scale laid down in the Schedule hereto.

15. The arbitrators or umpire, as the case may be, shall direct in their award by whom the fees or any part thereof payable in respect of any arbitration held under these By-laws shall be paid.

16. Neither of the parties shall bring or prosecute any suit or proceeding whatever against the arbitrators or umpire or any of them for or in respect of the matters in dispute or any of them or of the arbitration nor any such suit or proceeding (save the enforcement of the award) against the other party.

17. The following Rules 18 to 27, having been inserted by agreement with the Native Piece Goods Merchants' Association, apply exclusively to disputes relating to the quality or outturn of Piece Goods where one of the parties to the dispute is a member of the Association. Rules 1 to 16 also apply to such disputes when they are not inconsistent with Rules 18 to 27.

18. In disputes relating to the quality or outturn of piece goods the reference shall be considered as a reference to survey and arbitrators appointed shall be known and act as surveyors.

19. In disputes relating to the quality or outturn of piece goods each reference to survey shall be dealt with alternatively in methods (a) and (b) specified below.

(a) The Committee shall through the Secretary appoint two surveyors, one from the list provided for in Rule 2 and the other from the list furnished to the Committee by the Bombay Native Piece Goods Merchants' Association,

or

(b) The Committee shall through the Secretary request the Bombay Native Piece Goods Merchants' Association to select two names, one from the list provided for in Rule 2, and one from a list furnished to the Committee by the Bombay Native Piece Goods Merchants' Association with an alternative name from each list, and on such selection the Committee shall appoint two of the persons so named one from each list, the alternative being appointed only when the first named person is not available.

20. Every second umpire in such disputes shall ordinarily be selected from the list of umpires furnished by the Bombay Native Piece Goods Merchants' Association and the Chamber undertakes to act fairly in this appointment as between the Chamber and the Native Piece Goods Merchants' Association.

(a) In cases where it is considered that special expert knowledge is required, the Chamber has the right to appoint an umpire who may not necessarily be on the official list of umpires.

21. The list provided for in Rule 2 in so far as disputes concerning the quality and outturn of piece goods are concerned shall not exceed thirty names as surveyors and the list furnished by the Bombay Native Piece Goods Merchants' Association similarly shall not exceed thirty names as surveyors and each list shall provide not less than six nor more than twelve as umpires.

22. In cases where both surveyors agree as to the buyer's right to more or less compensation as regards the complaints made but the only point of disagreement is the amount of the compensation, the umpire shall award the amount of the compensation payable, such amount to be within the limits awarded by the surveyors, if the surveyors make differing awards as to compensation, otherwise within the discretion of the umpire.

23. It is to be understood that in the event of its being proved to the satisfaction of the surveyors that the importing house had previously offered an allowance in settlement of the dealer's claim equal to, or more than, the allowance awarded by the surveyors, then the whole cost of the survey shall fall on the dealer. On the other hand, if it be proved to the satisfaction of surveyors that the dealer had offered to accept an allowance equal to, or less than, the allowance awarded by the surveyors, then the whole cost of the survey shall fall on the importing house.

24. The parties to any dispute shall state at the time of making their submission if they wish to give oral evidence, but only such oral evidence shall be allowed by the surveyors as is relevant to the subject matter of the survey.

25. The Bombay Native Piece Goods Merchants' Association shall be provided periodically with copies of awards and with a list of surveyors and umpires appointed in disputes relating to piece goods.

26. In all cases the decision of an umpire shall be final.

27. Six months' notice in writing shall be given by either party before the agreement between the Bombay Native Piece Goods Merchants' Association and the Chamber, under which these rules are accepted, can be terminated.

SCHEDULE.

Scale of Fees.

1. The following fees, to be remitted to the Secretary of the Chamber at the same time as the application for the appointment of arbitrators and umpires is made, will be charged :—

- (a) A fee of Rs. 25 for each arbitrator and umpire (i.e., Rs. 75). The Committee of the Chamber reserves the right to charge in special cases, involving much time and trouble, a special fee for the arbitrators or umpire, to be fixed by the Committee.
- (b) When one or both parties to the dispute are members of the Chamber or members of the Bombay Native Piece Goods Merchants' Association, an additional fee of Rs. 10 will be charged for the Chamber's services.
- (c) When neither party to the dispute is a member of the Chamber nor a member of the Bombay Native Piece Goods Merchants' Association an additional fee of Rs. 30 will be charged for the Chamber's services.
- (d) In addition to the fees stated above a further sum of Rs. 20 shall be paid to cover the cost of the stamp duty, if any, payable on the award. Should the cost of the stamp amount to less than Rs. 20 the difference will be refunded.
- (e) In the event of the arbitration not being proceeded with, the fees deposited will, with the exception of the Chamber's fee, be refunded.
- (f) In the event of an umpire not being appointed the sum of Rs. 25 will be refunded.

2. In all cases where the arbitrators or umpire appointed by the Chamber decide that the dispute is not capable of being adjudicated in the rooms of the Chamber each arbitrator or umpire shall be entitled to an extra fee of Rs. 10 to cover his expenses.



Machines		Number of Operatives		Total Wages paid per month	Range of Counts	Kinds of Cloth (width, thread, warp and weft per inch)
Men		Women				
Mixing ..	5 for making mixing 10 Feeding hoppers and looking after 2 Exhs. and 6 Sutchers, also one jobber.	..	..	27/- 27/-	12's weft to 60's 14's warp to 50's	A large variety of dhot Col. and Artificial Borders, large variety of coloured shirtings ornamented with artificial silk. Reeds varying from 120 on five counts down to 44 on coarser counts. Picks from 80 down to 40.
Cards	48 ..	..	..	27/-		
Drawing	4. Setts, 12 Heads 9 deliveries Double Dri-	..	4	36/-		
Slubbing	4 100 spindles each	7	..	38/-		
Intermediate	8 128 spindles each	11	..	32/-		
Roving	26 126 spindles each	17	..	36/-		
Ring Warp	{ 20,092 spindles	7 doffers	..	19/8		
Ring Weft	{ 56 doffers	..	44	27/8		
Doubling	1,200 spindles	2 ..	..	28/6/6		
Reeling	30 ..	4 ..	56	19/8		
Bundling and Baling	1 ..	1 ..	26	—		
Winding	3 High Speed	..	..	—
Warping	6 Ord. Col. & Grey	24 ..	88	25/-		
	2 High Speed	..	..	22/-		
	9 Ordinary	11 ..	..	110/-		
Drawing-in	15 ..	15 ..	..	65/-		
Sizing ..	6 ..	6 Sizars	15	68/-		
	6 Back Sizars	..	..	32/-		
Number of Looms	482 Night & Day	..	..	—
Finishing	1	..	..	..		Total value in allowances 21,292
Plant ..	1	..	..	..		Total spindles 304
Calender	1	..	..	..		Total looms, up to 45 in. 45 in. to 72 in. 178
Stenter	1	..	..	..		over 72 in. —
		Reachers	..	21/-		Automatic loom below 45 in.
		Cell Sweepers	..	22/-		Rest days per year 54 to 60
		Women in Waste	..	19/8		Shifts: number of operatives, two of 10 hours each
		Weavers ..	..	54/-		
		Jobbers ..	..	120/-		
		Fancy Jobbers ..	..	110/-		
		Assistant Jobbers	..	50/-		
		.. ..	..	44/-		
Cloth Lookers, one to 44 looms	..	..	..	—
Number of Overlookers, one to 44 looms	..	..	..	..
Baling, five men for both yarn and cloth	..	..	..	..
	Stampers and Makers-up of cloth	..	..	26/-		
	Baling Pressmen ..	..	..	30/-		
	Calender and Finishers ..	..	..	25/-		
Spindle speed	..	..	20's Warp	..	8 oz.	
Front roller speed	..	..	40's "	..	3.3 oz.	
Lift ..	..	..	14's "	..	11. " 25% waste.	
Production per spindle, 24's warp, 7 oz., beam 24-25	..	..	60's Weft	..	1.8 "	
Operatives per 1,000 spindles	..	..	30's "	..	4 "	
Turns per inch, 17.06. Cotton LINDI (African)	..	..	16's "	..	8.18 " 25 % waste	
WEAVING :—Loom picks per minute, average 45 in. speed 204						
Production per loom. General efficiency, 81% throughout the year.						
Character of Cloth—Very large variety.						
Operatives per 100 looms: 54, including Head Jobber, Fancy Jobbers, Oilers and Weavers.						
Total number from Winding to Baling, including Calendering and Finishing, per 100: 77.						

WEAVING :—Loom picks per minute, average 45 in. speed 204
Production per loom. General efficiency, 81% throughout the year.
Character of Cloth—Very large variety.
Operatives per 100 looms: 54, including Head Jobber, Fancy Jobbers, Oilers and Weavers.

Total number from Winding to Baling, including Calendering and Finishing, per 100 : 77.

	No. of Operatives		Total Wages		Production per hour	Range of		Kinds of Cloth	
	Male	Female	over	paid		Counts spun	(width, threads, warp and weft per inch)		
Mixing	15	15	15	Rs. 198 4 0	—	9's weft, 12's warp	ins. yds. lbs. Warp	Weft	
Scutcher	6	—	6	449 10 0	1,487 lbs.	17's "	22 × 24 × 5 $\frac{1}{2}$ 12's	9's	
Cards	14	—	14	714 8 0	—	22's "	24 × 24 × 6 $\frac{3}{4}$ 12's	9's	
Drawing	22	—	22	—	—	25's "	28 × 24 × 7 $\frac{1}{8}$ 12's	9's	
Slubber	11	—	11	—	—	36's "	29 $\frac{1}{2}$ × 40 × 13 12's	17's	
Intermediate	16	—	117	4,118 14 0	1,369 lbs.	12's "	26 × 40 × 10 12's	22's	
Roving	35	—	300	9,953 6 0	1,162 lbs.	20 $\frac{1}{2}$'s reeled yarn	24 × 24 × 4 14's	17's	
Rings	95	—	—	—	1,281 lbs.	30's "	32 × 47 × 13 $\frac{15}{16}$ 14's	17's	
Mules	—	—	—	—	—	—	36 × 30 × 10 14's	17's	
Reeling	57	60	63	1,825 12 0	268 lbs.	—	48 × 31 $\frac{1}{2}$ × 14 14's	17's	
Bundling and baling	2 + 2	5	5	201 4 0	27 bundles (·6 b/s)	—	49 × 38 × 13 $\frac{3}{8}$ 14's	25's	
Winding	7	104	113	2,954 8 0	639 lbs.	—	54 × 40 × 16 14's	25's	
Warping	12	21	21	994 2 0	17,854 yds.	—	48 × 38 × 12 $\frac{1}{4}$ 21's	36's	
Drawing-in	13	24	24	1,198 11 0	11,245 ends (6·4 beams)	—	50 × 38 × 12 $\frac{3}{4}$ 21's	36's	
Sizing	6	27	28	1,511 15 0	4,082 yds. (6·1 beams)	—	52 × 38 × 13 $\frac{1}{4}$ 21's	36's	
No. of looms	765	411	411	22,794 0 0	3,769 yds.	—	48 × 38 $\frac{1}{2}$ × 10 $\frac{1}{2}$ 30's	36's	
	—	—	—	—	(129 pieces, 1,152 lbs.)	—	24 × 7 $\frac{1}{2}$ × 1 $\frac{1}{2}$ 21's	12's	
Finishing plant	—	—	44	1,306 14 0	—	—	—	—	
Cloth lookers	—	—	—	—	—	—	—	—	
No. of overlookers	—	—	—	314 9 0	—	—	—	—	
Baling	—	—	—	—	—	—	—	—	

SPINNING :

Spindle speed	..	..	21's warp	10,394 rev.	14's warp	9,147 rev.
Front roller speed	..	..	21's warp	176 rev.	14's warp	193 rev.
Lift	..	..	..	..	..	5 $\frac{1}{2}$ in.
Production per spindle 21's warp	..	..	..	..	..	..
Operatives per 1000 spindles	..	..	..	6·12 oz., 14's warp, 9·96 oz. per 10 hours	..	..
Average counts, 16·28 ; up to spindle point, 15·145 ; up to baling, 23·711						

WEAVING :

Loom picks per minute	..	..	Sheeting	Drill	Khadi	Shirting
Production per loom	..	..	205	205	210	175
State character of cloth	..	..	15·94 lbs.	17·95 lbs.	17·76 lbs.	10·28 lbs.
Operatives per 100 looms	..	..	(55·32 yds.)	(58 yds.)	(53·05 yds.)	(31·66 yds.)
preparatory, 26·21 ; loom, 58·47 ; finish, 6·23 ; total, 90·91						

Costs :

Cost per lb. 30's warp, spindle point	..	..	Labour annas	Overhead annas	Depreciation annas	Total annas
" 21's "	..	..	1·344	1·511	·331	3·186
" 12's "	..	..	·902	1·018	·232	2·152
Cost of reeling and bundling	..	..	·357	·403	·133	·893
·502 annas per lb.						
Cost of weaving 100 yds.—Sheeting	..	..	Rs. 3·464	Rs. 3·023	Rs. ·185	Rs. 7·172
Drill	..	..	3·644	3·180	·185	7·009
Shirting	..	..	4·277	3·733	·185	8·195
Khadi	..	..	5·139	4·484	·185	9·808

Total value of allowances in kind, over

and above wages	..	..	..	Nil except Diligence Bonus	
Total spindles	..	..	..	31,992 (working average 30,364)	
Total looms, below 45 in.	..	..	..	384	
45 in. to 72 in.	..	..	..	354	
over 72 in.	..	..	..	—
Automatic looms, below 45 in.	..	..	..	—
45 in. to 72 in.	..	..	..	—
over 72 in.	..	..	..	—
Total	..	..	..	765 (working average 734)	
Rest days per year	..	..	..	56	
Shifts ; number of operatives	..	..	..	1 shift	116·8 (10 hours)
General remarks : Absenteeism 5·76 per cent.					

	No. of Operatives		Total under	Total paid per month	Production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male under	Female under					
Mixing	13	2	15	Rs. 425	25,000 lbs.		Longcloth, 22" wide to 47", 20 warp, 22 weft, 44 reed, 46 picks.
Scutching	30	—	57	1,450	"		Khadi cloth, 18" to 54", 14 warp, 8 weft, 32 reed, 36 picks.
Cards	151	—	64	1,632	"		Coloured Lucy, 27" to 36", 20 warp, 10 weft, 64 reed, 32 picks.
Drawing	16	—	48	499	"		Dhoties, 22" to 45", 20 warp, 26 weft, 44 reed, 48 picks.
Slubber	—	—	—	—	—		Japan shirtings, 22" to 40", 14 warp, 14 weft, 44 reed, 44 picks.
Intermediate	102	20	143	4,494	"		
Roving	—	—	—	—	—		
Rings	113	50	350	9,520	13,000	10's to 26's	
Mules	20	—	91	3,114	8,000	10's to 16's	
Reeling	100	180	180	3,980	8,000		
Bundling and baling	4	—	18	854	—		
Winding (warp and weft)	98	309	309	8,402	12,000		
Warping	15	2	26	1,416	6,800		
Drawing-in	18	—	40	1,150	—		
Sizing	7	—	26	1,446	—		
No. of looms	1,028	329	329	23,805	13,500		
Finishing plant	5	—	18	670	—		
Cloth lookers and folding	11	—	45	1,224	—		
No. of overlookers	—	5	5	—	—		
Baling	1	5	5	141	—		

SPINNING :					
Spindle speed ..	..	..	..	8,100	
Front roller speed ..	..	..	..	158	
Lift ..	..	..	in.	5	
Production per spindle 20's warp	..	..	ozs. per spindle per 10 hours	6·70	
Operatives per 1,000 spindles (up to spindle point) ..	..	..	..	15·3	
WEAVING :					
Loom picks per minute ..	..	..	..	average	20·5
Production per loom ..	..	..	lbs. per day	12½	
State character of cloth ..	..	..	..	see above	
Operatives per 100 looms ..	..	..	..	52·8	
Costs : ..	..	..	Labour	Total	
	..	..	9·32	Overhead	
	..	..	3·38		
	..	..			5·70

General remarks: The costs and production represent the average of three mills.

Operatives per 100 looms					
	..	..	..	..	Total
Costs :					
Cost per lb. 40's warp, spindle point	..	..	annas per lb.	Labour	Overhead
20's	"	"	"	2·32	3·38
"	"	"	"	1·04	1·51
10's	"	"	"	.52	.75
Cost of reeling and bundling ..	..	..	10's, 0·27 ; 20's, 0·56 ; 40's,	0·76 annas per lb.	
Cost of weaving 100 yards	..	..	wages, 7·55 ; stores, 18·85 ; total,	26·40 annas	

No. of Operatives				Total Wages paid per month Rs.	Production per 10 hours lbs.	Range of Counts spun	Kinds of Cloth			Sort	(width, threads, warp and weft per inch)		Pick
Male over 15	Female over 15	Total over 15					Width ins.	Threads	Reed		Width ins.	Threads	
Mixing	290/-	24,730	W'eft	..	850/2440	40's	Khadi	..	17 to 56	36's
Scutcher	11	1,235/-	22,327	12's, 14's, 16's, 18's,	..	890/2480	32's/48's	Long cloth	..	25 to 62	28's/48's
Cards	39	1,509/-	21,347	20's, 22's, 24's, 26's,	..	2430/5150	44's/56's	Chader	..	49 to 88	32's/54's
Drawing	62	1,860/-	19,637	28's, 30's and 40's	..	900/3500	36's/64's	Shirting	..	20 to 70	32's/52's
Slubber	54	625/-	19,637		..	1400/1700	48's/56's	Holland	..	27, 28	44's/52's
Intermediate	18	953/-	19,874	Warp	..	900/1200	36's/40's	Solapuri	..	22, 24	34's/36's
Roving	27	4,370/-	19,826	14's, 16's, 20's,	..	912/ 926	36's	Lucy check	..	21, 23	32's/36's
Rings	153	17,341/-	18,770	24's and 40's	..	4792	72's	Table cloth	..	72, 63½	72's
Mules	681	—	—		..	1230/1400	40's/44's	Twill	..	24, 31	36's/42's
Reeling	82	1,101/-	2,006		..	1270/1948	32's/52's	Drill	..	24 to 28	32's/44's
Bundling and baling	11	349/-	1,978		..	1457/1454	52's	Dobby Lucy	..	27	52's
Winding	226	4,820/-	10,032		..	1100/1240	48's	St. Lucy	..	21 to 33	32's/52's
Warping	41	1,643/-	8,066		..	1752/2996	36's	Laheria	..	18, 20, 22	44's
Drawing-in	46	2,195/-	191,344 ends		..	826/ 878	32's/44's	Bed tick	..	24 to 48	32's/36's
Sizing	43	1,943/-	11,735		..	2016	28's/32's	Check challa	..	21, 22	28's/30's
No. of looms	984	50,998/-	22,131		..	2712/3012	40's	P.B. dhoty	..	44	34's
Finishing plant	2	700/-	—		..	2392	52's	F.B. dhoty	..	47, 54	52's
Calender	29	371/-	22,080		..	1560/2480	48's	Fine dhoty	..	44	48's
Cloth lookers	12	83/-	—		..	—	44's/52's	Domestic	..	32/45	38's/48's
No. of overlookers	2	2,100/-	—		..	—	—		..	—	—
Folders and coolies	76	593/-	19,292		..	—	—		..	—	—
Baling	16	—	—		..	—	—		..	—	—

SPINNING:												
Spindle speed	..	..	20's warp, 9,234; 24's warp, 9,577; and 40's warp, 10,080	..	..	..	..	..	..	..	..	..
Front roller speed	..	..	179; ..	..	..	..	..	..	..	..	..	..
Lift	..	..	..	..	..	..	..	..	..	..	..	..
Production per spindle	..	..	20's warp, 6.5 ozs.; 24's warp, 5.14 ozs.; and 40's warp, 3.23 ozs.	..	..	..	..	..	..	..	..	..
Operatives per 1,000 spindles	..	..	..	..	..	..	..	..	..	..	..	..
WEAVING:												
Loom picks per minute	..	..	..	..	..	..	..	..	..	..	..	..
Production per loom	..	..	..	..	..	..	..	..	..	..	..	..
State character of cloth	..	..	..	..	..	..	..	..	..	..	..	..
Operatives per 100 looms	..	..	56 (exclusive of preparatory and finishing department)	..	..	..	..	..	..	..	..	..
Costs:												
Cost per lb. 40's warp, spindle point	..	..	labour, pies 22.94; overhead, pies 24.16	..	..	..	..	..	..	..	..	..
" 20's	..	..	" " 10.09; ..	..	..	..	..	..	..	..	..	..
" 10's	..	..	" " ..	..	..	..	..	..	..	..	..	..
Cost of reeling and bundling	..	..	..	..	..	..	..	..	..	..	..	..
Cost of weaving 100 yards	..	..	..	..	..	..	..	..	..	..	..	..
Rs. 1/12/4 only labour for weaving, and Rs. 5/-, including everything excepting value of yarn												
Total value of allowances in kind, over and above wages											..	53,820
Total spindles											..	914
Total looms, below 45 in.											..	814
45 in. to 72 in.											..	32
over 72 in.											..	—
Automatic looms, below 45 in.											..	—
45 in. to 72 in.											..	—
over 72 in.											..	—
Rest days per year											..	57
Shifts; number of operatives											..	2,821
General remarks:											..	only day shift

	No. of Operatives		Total		Total Wages		Production		Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over	Female over	Male over	Female over	per month Rs. 424	per month 8	per 250 hours	per 250 hours		
Mixing	15	15	15	15	Rs. 424	8	0	0	24's to 70 s	Nil
Scoutcher	12	6	18	18	424	0	0	0		
Card	15	1	16	16	802	0	0	0		
Drawing	27	2	29	29	957	8	0	0		
Slubber	27	2	29	29	345	8	0	0		
Intermediate	9	1	10	10	522	0	0	0		
Roving	17	1	18	18	997	8	0	0		
Fine roving	32	3	35	35	2,214	0	0	0		
Ring	74	8	82	82	11,935	0	0	0		
Mule	312	150	462	462	6,072	0	0	0		
Reeling	10	243	253	253	493	0	0	0		
Bundling and baling	17	—	17	17	780	0	0	0		
Winding	4	56	60	60	210	0	0	0		
Warping	7	—	7	7	—	—	—	—		
Drawing-in	—	—	—	—	—	—	—	—		
Sizing	—	—	—	—	—	—	—	—		
No. of looms	150	2	152	152	4,560	0	0	0		
Finishing plant	—	—	—	—	—	—	—	—		
Cloth lookers	—	—	—	—	—	—	—	—		
No. of overlookers	—	—	—	—	218	0	0	0		
Baling	5	—	5	5	—	—	—	—		

SPINNING:		Cost		Reeling		Warp		Total value of allowances in kind, over and above wages	
		70's	60's	44"	42"	40"	30		
Spindle speed	..	10,018	10,018	10,018	10,018	10,018	10,018	..	47,460
Front roller speed	..	100	126	100	154	126	167	..	—
Lift	..	5"	5"	5"	5"	5"	5"	..	—
Production per spindle	..	1.10	1.35	2.25	2.45	2.16	3.34	..	—
Operatives per 1,000 spindles	..	..	..	..	..	..	if all present	..	—
Costs:									
Cost per lb. 40's warp, spindle point	..	..	..	..	..	..	..	..	56
" 20's	..	..	..	..	..	..	..	..	—
" 10's	..	..	..	..	..	..	..	..	—
Cost of reeling and bundling and baling	..	..	..	..	..	..	..	..	—
Cost of weaving 100 yards	..	..	..	..	..	..	..	..	—

Rest days per year
Shifts; number of operatives
General remarks: Particulars herein shown are based on full working mill.

	No. of Operatives		Machines	Total over	Total Wages paid per month	Production per 250 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)	
	Male over	Female over						Width	Reed
Mixing ..	15	15	2	15	Rs. 816 0 0			24	30
Scutcher ..	22	3	5	25	938 8 0			24	60
Cards ..	35	2	60	37	625 0 0			25	44
Drawing ..	21	2	6 (3 head)	23	507 8 0	160,570	10's to 30's	25	44
Slubber ..	16	—	5	16	169 8 0			26	36
Intermediate ..	5	—	10	5	296 8 0			26	44
Roving ..	10	—	21	10	635 8 0			27	60
Rings ..	21	—	54	21	6,199 0 0			27	66
Mules ..	163	82	—	245	—			27	44
Reeling ..	7	66	42	73	1,932 8 0			28	40
Bundling ..	9	—	2	9	316 0 0			28	36
Winding ..	33	268	68	301	4,770 0 0			28	32
Warping ..	24	—	15	24	899 8 0			29	44
Drawing-in ..	46	—	20	46	1,321 8 0			29	52
Sizing ..	21	—	6	21	1,096 0 0			29	84
No. of looms ..	576	—	913	576	29,323 8 0			29	56
Finishing plant ..	—	—	—	—	—			29	64
Cloth lookers ..	4	—	—	4	215 0 0			31	66
No. of overlookers ..	—	—	—	—	—			44	48
Folding ..	27	—	3	27	803 0 0			44	44

SPINNING :

	12	16	20	24	10	12	18	20	22	24	30	Total value of allowances in kind, over and above wages
Spindle speed ..	7,975	7,975	9,570	9,570	6,835	6,835	7,975	9,570	9,570	9,570	9,570	Total spindles ..
Front roller speed ..	165	148	165	151	104	148	124	147	162	151	117	Total looms, below 45 in. ..
Lift ..	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"	5"	45 in. to 72 in. ..
Production per spindle ..	10.82	7.04	6.45	4.86	13.59	9.87	5.93	5.84	5.62	4.54	3.32	over 72 in. ..
Operatives per 1,000 spindles ..	—	—	—	—	—	—	—	—	if all present	20.78	—	Automatic looms, below 45 in. ..
WEAVING :									45 in. to 72 in. ..	—	—	over 72 in. ..
Loom picks per minute ..	—	—	—	—	—	—	—	—	—	—	—	Rest days per year ..
Production per loom ..	—	—	—	—	—	—	—	—	—	—	—	Shifts ; number of operatives ..
State character of cloth : Twill, drill, long cloth, khadia, doria, silk saries, col. solapur, blankets and counterpanes	—	—	—	—	—	—	—	—	—	—	—	General remarks : Particulars herein shown are based on full working mills.
Operatives per 100 looms ..	—	—	—	—	—	—	—	—	—	—	—	

Costs :

Cost per lb. 19's warp, spindle point ..	13.09	Overhead	Store, etc.
Cost of reeling and bundling ..	pies per lb. 18.26	Power,	
Cost of weaving 100 yards ..	..	31.35	
	..	Rs. 3 9 3	

	No. of Operatives		Machines	Total		Total wages paid per month	Production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over 15	Female over 15		Male over 15	Female over 15				
Mixing (including waste)	Rs. 1,457	—	8's to 60's	Coloured shirtings, width 29 to 31", 56 R. × 48 P.; 30's warp × 40's weft.
Scouter	59	41	64	1,653	—		Coloured coating, width 28", 56 R. × 48 P.; 2/40's warp × 16's weft.
Cards	29	2	62	3,019	—		Drills, width 21 to 28", 3/44 R. × 44 P., 16's warp × 14's weft.
Drawing	200	24	107	2,023	—		Long cloths, width 32 to 52", 44 R. × 40 P.; 30's warp × 22's weft, I.B. & S.P. Dhories (bleaching sorts), 50 to 54", 60 R. × 52 P.; 40's warp × 54's weft.
Slubber	72	69	69	—	—		P.B. & C. & B. Dhories (grey sorts) 36 to 44", 44 R. × 42 P.; 30's warp × 40's weft.
Intermediate Roving	148	52	255	8,129	—		
Rings	181	228	562	16,126	10,717 up to 30's 5,053 over 30's		
Mules	18	2	90	2,803	5,950		
Reeling	115	205	212	3,612	9,193		
Bundling and baling	7	—	9	452	6,209		
Winding	43	352	382	8,201	9,905		
Warping	22	39	47	2,017	—		
Drawing-in	21	—	39	2,472	—		
Sizing	9	2	37	2,035	—		
No. of looms	1,430	716	716	35,504	15,000		
Loom attendants	—	66	70	2,751	—		
Finishing plant	58	190	190	7,087	—		
Cloth lookers	—	7	7	345	—		
No. of overlookers	—	4	105	6,192*	—		
Baling	2	—	6	300	—		
Mechanic and electrical motors	26	181	187	9,300	—		
Watchmen	—	25	25	693	—		

* Wages of weaving overlookers only, wages of overlookers of other departments being included under departmental items.

* Wages of weaving overlookers only, wages of overlookers of other departments being included under departmental items.

SPINNING:				Total value of allowances in kind, over and above wages—No allowances are paid in kind	
Spindle speed	..	..	8,000/10,000		
Front roller speed	..	..	140/190, according to count		
Lift	..	..	5" on ring		
Production per spindle	..	..	6½ ozs. on 20's average		
Operatives per 1,000 spindles	..	..	16 on an average from blow room to spinning (including jobbers)		
WEAVING:					
Loom picks per minute	..	..	12 lbs. on the average per day		
Production per loom	..	..	183/190		
State character of cloth: Cold shirtings, cold coatings, drills, long cloths, dhories, etc.	..	..	
Operatives per 100 looms	..	..	50		
Costs:					
Cost per lb. 40's warp, spindle point	..	..	Rs. a. p.		
" 20's	..	..	0 2 10		
" 10's	..	..	0 1 0		
Cost of reeling and bundling	..	..	0 0 7		
Cost of weaving 100 yards	..	..	..
	..	..	Rs.		
	..	..	Pies per lb.		
	..	..	Fcs.		
	..	..	4		
Rest days per year				..	56
Shifts; number of operatives				..	only one shift
General remarks:				..	3,241

	No. of Operatives			Total Wages paid per month	Production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over	Female over	Total over				
Mixing	15	15	15	Rs. 413	26,400 lbs.	8's to 30's	Khady: 10 warp, 8 weft, 32 reed, 30 picks.
Scutcher	14	—	14	1,212	—		Long cloth: 20 warp, 24 weft, 44 reed, 46 picks.
Cards	49	—	49	1,464	24,000		Japan Domestics: 14 warp, 14 weft, 44 reed, 44 picks.
Drawing	60	2	62	1,466	—		Dosuti (Tent Cloth): 14 warp, 41 weft, 64 ends, 64 picks.
Slubber	54	—	54				Lucys: 20 warp, 20 weft, 40 reed, 40 picks.
Intermediate	220	15	235	7,079	23,500		Twill: 20 warp, 18 weft, 44 reed, 32 picks.
Roving	510	80	590	12,534	23,000		Check Lucy: 20 warp, 10 weft, 64 reed, 32 picks.
Rings	—	—	—	—	—		
Mules	2	250	252	5,992	12,000		
Reeling	27	—	27	685	12,000		
Bundling and Baling	6	—	6	5,338	11,000		
Winding (warp and weft)	73	238	244	743	6,500		
Warping	10	—	18	922	—		
Drawing-in	13	—	28	719	7,500		
Sizing	5	—	14	16,650	12,500		
No. of looms	377	—	377	406	—		
Finishing Plant	14	—	14	634	—		
Cloth lookers and folding	25	—	25	—	—		
No. of overlookers	—	—	—	—	—		
Baling	5	—	5	141	—		

SPINNING:		Total value of allowances in kind, over and above wages	..	44,215
Spindle speed	..	Total spindles	..	517
Front roller speed	..	Total looms, below 45 in.	..	181
Lift	..	45 in. to 72 in.	..	—
Production per spindle 20's warp	..	over 72 in.	..	—
Operatives per 1,000 spindles	..	Automatic looms, below 45 in.	..	22
		45 in. to 72 in.	..	—
WEAVING:		over 72 in.	..	62
Loom picks per minute	..	Rest days per year	..	only 1
Production per loom	..	Shifts; number of operatives	..	..
State character of cloth	..		..	..
Operatives per 100 looms	..		..	..

Costs:

	Labour	Overhead	Total
Cost per lb. 40's warp, spindle point	—	—	—
" 20's	1.62	1.05	2.67
" 10's	.98	.60	1.58
Cost of reeling and bundling	.. 10's, 0.25; 20's, 0.35 annas	..	..
Cost of weaving 100 yards	..	75 annas	..

	No. of Operatives			Total Wages paid per month	Production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over	Female over	Total over				
Mixing	15	15	15	Rs. 243	—	10's to 40's	Plain and fancy border dhoties : 30 warp, 40 weft, 44 reed, 40 picks. 24 warp, 30 weft, 40 reed, 36 picks.
Scutcher	11	—	11	962	17,000 lbs.		
Cards	39	—	39	1,139	15,300		
Drawing	58	2	60	1,532	14,700		
Slubber	48	—	48				
Intermediate	149	30	179	4,829	14,700		Jacquard, Chaddar, etc. : 2/10 warp, 8 weft, 36 reed, 36 picks.
Roving	432	50	482	11,875	14,000		
Rings	—	—	—	—	—		
Mules	—	200	200	4,420	9,500		
Reeling	33	—	33	990	9,500		
Bundling and Baling	4	112	116	2,658	4,200		
Winding (warp and weft)	11	—	11	490	2,500		
Warping	14	—	14	595	—		
Drawing-in	9	—	9	532	2,700		
Sizing	231	—	231	11,088	4,500		
No. of looms	18	—	18	532	—		
Finishing Plant	14	—	14	330	—		
Cloth lookers and folding	—	—	—	—	—		
No. of overlookers	3	—	3	108	—		
Baling	—	—	—	—	—		
SPINNING :							
Spindle speed	..	..	..	.. r.p.m.	8,400	Total value of allowances in kind, over and above wages	43,128
Front roller speed	..	..	..	..	151	Total spindles	..
Lift	..	..	..	..	5	Total looms, below 45 in. 45 in. to 72 in. over 72 in.	416
Production per spindle 30's warp	..	..	..	..	4.10	Automatic looms, below 45 in. 45 in. to 72 in. over 72 in.	..
Operatives per 1,000 spindles	..	..	..	..	19.05	Rest days per year	62
WEAVING :							
Loom picks per minute	..	..	..	..	190	Shifts ; number of operatives	1 shift only
Production per loom	..	..	..	.. lbs.	11		
State character of cloth	..	..	..	.. see above	..		
Operatives per 100 looms	..	..	..	..	99		
Costs :							
Cost per lb. 30's warp, spindle point	..	..	..	Labour	Overhead	Total	
" 20's "	..	..	..	2.13	2.72	4.85	
" 10's "	..	..	..	1.26	1.60	2.86	
Cost of reeling and bundling	..	..	..	.58	.74	1.32	
Cost of weaving 100 yards	..	..	..	10's, 0.27 ; 20's, 0.56 ; 30's, 0.77 annas	.. annas	83.5	

	No. of Operatives										Total Wages paid per month	Production	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)	
	Male					Female										Total
	Machines	15	15	15	15	over under	15	15	15	15	over under	Count			
Mixing	1	—	—	6	—	6	—	—	—	—	16 4 0	Average production per day	11's to 40's	Dhoties, bed sheets, shirtings, long cloth.	
Scutcher	8	14	—	—	—	14	—	—	—	—	22 9 0	4.4 Oz.			
Cards	84	30	—	—	—	30	—	—	—	—	21 8 0				
Drawing	9	—	—	—	—	—	—	—	—	—	—				
Slubber	9	—	—	—	—	—	—	—	—	—	—				
Intermediate	18	118	1	12	—	130	1	27	0	0	Average Count				
Roving	39	—	—	—	—	—	—	—	—	—	—				
Rings	84	288	17	56	6	344	23	27	0	0	21.6				
Mules	—	—	—	—	—	—	—	—	—	—	—				
Reeling	21	—	—	37	—	37	—	25	14	0					
Bundling and Baling	—	—	—	—	—	—	—	—	—	—	—				
Winding	6	—	—	50	—	50	—	26	4	0					
Warping	10	15	—	—	—	15	—	48	5	0					
Drawing-in	—	20	—	—	—	20	—	—	—	—	—				
Sizing	4	21	—	6	—	27	—	37	12	0					
No. of looms	602	335	—	6	—	341	—	44	0	0					
Finishing Plant	—	—	—	—	—	—	—	—	—	—	—				
Cloth lookers	—	22	—	—	—	22	—	26	4	0					
No. of overlookers	—	—	—	—	—	—	—	—	—	—	—				
Baling	—	—	—	—	—	—	—	—	—	—	—				
SPINNING:															
Spindle speed	..	..	..	..	..	..	..	..	21's warp	9,200			Total value of allowances in kind, over and above wages	..	30,692
Front roller speed	..	..	..	..	..	..	..	..	"	172			Total spindles	..	132
Lift	..	..	..	..	..	..	..	..	..	5*			Total looms, below 45 in.	..	470
Production per spindle 21's warp	..	..	..	..	..	..	..	..	..	..			45 in. to 72 in.	..	—
Operatives per 1,000 spindles	..	..	..	..	..	..	..	..	..	5.2			over 72 in.	..	—
WEAVING:															
Loom picks per minute	..	..	..	..	..	..	..	..	..	—			Automatic looms, below 45 in.	..	—
Production per loom	..	..	..	..	..	..	..	..	..	200			45 in. to 72 in.	..	—
State character of cloth	..	..	..	..	..	..	..	..	..	50			over 72 in.	..	—
Operatives per 100 looms	..	..	..	..	..	..	..	..	dhoties, chaddars, shirtings	50			Rest days per year	..	57
	..	..	..	..	..	..	..	..	..	50			Shifts; number of operatives	..	—
	..	..	..	..	..	..	..	..	..	50			Hours of work per week	..	58½
Costs:															
Cost per lb. 21's warp, spindle point	..	..	..	..	..	..	..	..	pies per lb.	27				..	
Cost of reeling and burling	..	..	..	..	..	..	..	..	"	6-7				..	
Cost of weaving 100 yards	..	..	..	..	..	..	..	..	"	1158				..	

Total value of allowances in kind, over and above wages	..
Total spindles	30,692
Total looms, below 45 in.	132
45 in. to 72 in.	470
over 72 in.	—
Automatic looms, below 45 in.	—
45 in. to 72 in.	—
over 72 in.	—
Rest days per year	57
Shifts; number of operatives	—
Hours of work per week	58½

REPLIES TO QUESTIONNAIRES

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	No. of Operatives			Total Wages paid per month	Average Production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)	
	Male over	Female over	Total over				Width	Ends Picks Count per in. warp weft
Mixing ..	15	15	15	Rs. 550 12 9	—	—	{ 31" 33" 35" }	{ 44 42 21's }
Scutcher ..	18	2	20	1,099 0 9	—	20's	{ 37" 39" 41" }	{ 42 40 21's }
Cards ..	35	—	35	1,582 11 0	—	—	{ 33" 35" 37" }	{ 40 36 21's }
Drawing ..	50	—	50	—	—	—	{ 39" 41" }	{ 40 36 21's }
Slubber ..	18	33	222	6,891 12 0	—	—	{ 31" 33" 35" }	{ 40 36 21's }
Intermediate ..	18	—	—	—	—	—	{ 37" 39" 41" }	{ 40 36 21's }
Roving ..	29	—	—	—	—	—	{ 34" 36" }	{ 50 46 21's }
Rings ..	143	—	—	—	—	—	{ 38" 40" }	{ 50 46 21's }
Mules ..	4	—	—	—	—	20's conversion	—	—
Reeling ..	135	—	—	—	—	—	—	—
Bundling and baling ..	5	—	—	—	—	—	—	—
Winding—Grey 92 and Universal 162 ..	92	142	461	12,049 2 0	lbs. 17,950 gross	—	—	—
Warping ..	14	137	140	817 15 0	13,645	—	—	—
Drawing-in ..	25	—	—	5,664 5 6	—	—	—	—
Sizing ..	19	—	—	1,024 0 10	—	—	—	—
No. of looms ..	249	1	20	1,156 13 6	—	—	—	—
Warehouse ..	896	3	352	20,357 10 6	12,500	—	—	—
Cloth lookers ..	9	1	50	1,446 11 0	—	—	—	—
No. of overlookers ..	—	—	—	—	—	—	—	—
Baling ..	8	—	8	775 0 0	—	—	—	—
	3	—	3	126 13 8	—	—	—	—

SPINNING (21's) :		Total value of allowances in kind, over and above wages	—
Spindle speed ..	8,750	Total spindles	48,678
Front roller speed ..	165	Total looms, below 45 in.	448
Lift ..	51	45 in. to 72 in.	448
Production per spindle 21's warp	6.25	Over 72 in.	—
Operatives per 1,000 spindles—Including reeling and bundling	19.76	Automatic looms, below 45 in.	—
Excluding bundling and reeling	16.57	45 in. to 72 in.	—
WEAVING :		over 72 in.	—
Loom picks per minute	40"	Rest days per year	56
Production per loom	203	Shifts ; number of operatives	1,695
State character of cloth	14	Hours of work per week	59
Operatives per 100 looms—Including winding	82.25	GENERAL REMARKS :	
Excluding winding	53.90	Department	Total
Costs :		Doubling ..	Hands
Cost per lb. 20's warp, spindle point—Labour	11.75	D. Winding ..	77
Cost of reeling and bundling ..	22.14		65
Cost of weaving 100 yards (including all charges) ..	2.09		
	Rs. 5/10/0		
		Spinning machinery in this mill is very old.	

	No. of Operatives				Total Wages paid per month	Production per — hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Machines	Male over 15	Female over 15	Total over 15				
Mixing
Scutcher
Cards
Drawing
Slubber
Intermediate
Roving
Rings
Doffers
Reeling
Bundling and baling
Winding
Warping
Drawing-in
Sizing
No. of looms
Finishing plant
Cloth lookers
No. of overlookers
Baling

SPINNING:

Spindle speed ..	..	..	..	..	..	..	..	..	..
Front roller speed ..	..	..	..	..	..	..	..	..	..
Lift ..	..	..	..	..	..	..	..	..	..
Production per spindle, 22's warp	..	..	..	..	..	..	..	..	..
Operatives per 1,000 spindles ..	..	..	..	..	..	..	..	..	..

WEAVING:

Loom picks per minute ..	..	..	..	..	..	..	..	..	..
Production per loom ..	..	..	..	..	..	..	..	..	..
State character of cloth ..	..	..	..	..	..	..	..	..	..
Operatives per 100 looms..	..	..	..	..	..	..	..	..	..

Total value of allowances in kind, over and above wages
Total spindles .. 23,000
Total looms, below 45 in. .. 116
45 in. to 72 in. .. 530
over 72 in. ..
Automatic looms, below 45 in. ..
45 in. to 72 in. ..
over 72 in. ..
Rest days per year .. 65
Shifts ; number of operatives ..

	No. of Operatives			Total Wages paid per month	Production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over	Female over	Total over				
Mixing ..	15	15	15	292	—	13's warp	29½", 1908, 60 and 40 grey drill.
Scutcher ..	9	1	10	233	14,600	17's weft	36" 1670, 42 and 44 sheeting.
Cards ..	6	—	6	571	13,700	—	
Drawing ..	17	—	17	643	13,500	—	
Slubber ..	18	—	18	—	—	—	
Intermediate ..	63	2	65	1,894	13,500	—	
Roving ..	—	—	—	—	—	—	
Rings ..	129	28	157	4,849 {	7,440	13's warp	
Mules ..	27	—	27	1,042	4,500	17's weft	
Reeling ..	—	—	—	—	1,360	17's weft	
Bundling and baling ..	—	—	—	—	—	—	
Winding—Grey ..	—	—	—	—	—	—	
Universal ..	9	193	202	3,979	12,700	—	
Warping ..	20	—	20	787	7,160	—	
Drawing-in ..	19	—	19	678	9,300	—	
Sizing ..	18	—	18	1,033	9,300	—	
No. of looms ..	262	—	262	13,806	14,600	—	
Finishing plant ..	32	1	33	868	14,600	—	
Cloth lookers ..	3	—	3	141	—	—	
No. of overlookers ..	5	—	5	Spg. 578	—	—	
Baling ..	20	—	25	Wvg. 2,394	—	—	
Spinning, line levelling and roller covering ..	11	—	11	533	14,600	—	
Weaving, line levelling and Miscellaneous ..	22	—	22	986	—	—	
	37	—	37	1,483	—	—	
SPINNING:							
Spindle speed ..	8,141	8,548	8,548	8,778	—	—	—
Front roller speed ..	—	193	203	182	—	—	25,444
Lift ..	—	5½"	5½"	5"	—	—	523
Production per spindle (per 10 hrs) ..	13's warp, 11.75 oz. ; 17's weft, 7.5 oz. ; 17's mule, 5.5 oz.	—	—	—	—	—	270
Operatives per 1000 spindles (excluding reeling and bundling) ..	—	—	—	—	—	—	—
WEAVING:							
Loom picks per minute ..	—	32"	40" & 42"	46"	—	—	—
Production per loom ..	—	210	192	182	—	—	—
State character of cloth ..	—	60	55	52	—	—	—
Operatives per 100 looms—Including winding ..	—	—	—	—	—	—	56
Excluding winding ..	—	—	—	—	—	—	59
Costs:							
Cost per lb. 40's warp, spindle point ..	—	—	—	—	—	—	—
" 13's ..	—	—	—	—	—	—	—
" 10's ..	—	—	—	—	—	—	—
Cost of reeling and bundling ..	—	—	—	—	—	—	—
Cost of weaving 100 yards ..	—	—	—	—	—	—	—
Total value of allowances in kind, over and above wages							
Total spindles ..	—	—	—	—	—	—	—
Total looms, below 45 in. ..	—	—	—	—	—	—	—
45 in. to 72 in. ..	—	—	—	—	—	—	—
over 72 in. ..	—	—	—	—	—	—	—
Automatic looms, below 45 in. ..	—	—	—	—	—	—	—
45 in. to 72 in. ..	—	—	—	—	—	—	—
over 72 in. ..	—	—	—	—	—	—	—
Rest days per year ..	—	—	—	—	—	—	—
Shifts ; number of operatives ..	—	—	—	—	—	—	—
Hours per week ..	—	—	—	—	—	—	—
Total value of allowances in kind, over and above wages							
Total spindles ..	—	—	—	—	—	—	—
Total looms, below 45 in. ..	—	—	—	—	—	—	—
45 in. to 72 in. ..	—	—	—	—	—	—	—
over 72 in. ..	—	—	—	—	—	—	—
Automatic looms, below 45 in. ..	—	—	—	—	—	—	—
45 in. to 72 in. ..	—	—	—	—	—	—	—
over 72 in. ..	—	—	—	—	—	—	—
Rest days per year ..	—	—	—	—	—	—	—
Shifts ; number of operatives ..	—	—	—	—	—	—	—
Hours per week ..	—	—	—	—	—	—	—

* Warp tying machine.

	No. of Operatives			Total Wages paid per month	Average production per 10 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over 15	Female over 15	Total over 15				
Mixing	20	1	21	625 11 0	—	—	(width, threads, warp and weft per inch)
Scutcher	22	—	22	783 8 9	16,000	—	Dhoties, 24" to 40", warp 24's, 44 reed weft, 18's to 21's, 36 to 42 picks.
Cards	30	—	30	1,136 15 3	16,000	—	Shirtings, 18" to 55", warp 20's, 42-48 reed, weft 18's to 22's, 40 to 48 picks.
Drawing	—	—	—	—	—	—	
Slubbing	—	—	—	—	—	—	
Intermediate	133	21	154	5,298 10 3	—	—	
Roving	—	—	—	—	15,500	—	
Ring	246	16	262	8,418 13 6	—	17's to 30's	
Mule	62	1	63	2,158 0 0	14,500	60's to 20's	
Reeling	2	67	69	1,726 0 0	4,000	6's to 20's	
Bundling and baling	7	—	7	343 14 6	4,000	—	
Winding—Grey	6	63	69	1,851 7 3	—	—	
Warping	25	—	25	1,145 0 0	—	—	
Drawing-in	30	—	30	1,372 3 9	—	—	
Sizing	21	1	22	1,413 10 0	—	—	
No. of looms	513	—	513	25,400 1 0	13,500 including all weaving shed jobbers.	—	
Cloth lookers and warehouse	55	1	56	1,781 13 9	—	—	
Weaving Miscellaneous and L.L.	—	23	23	851 11 0	—	—	
Baling	8	—	8	306 2 9	—	—	
Roller covering	3	—	3	102 0 0	—	—	
Spinning Miscellaneous	9	—	9	205 11 0	—	—	
Line Levelling (Spinning)	12	—	12	858 8 0	—	—	
SPINNING:							
Spindle speed .. ..	..	8,872	8,872	8,571	8,500	Total value of allowances in kind, over and above wages	—
Front roller speed .. ..	..	165	156	191	141	Total spindles	41,232
Lift .. ..	..	6"	6"	6"	6"	Total looms, below 45 in.	495
Production per spindle (oz. per 10 hours) .. ..	..	20's, 6'5 ; 24's, 5'25 ; 18's, 8'14 ; 27's, 4'00	..	..	..	45 in. to 72 in.	543
Operatives per 1,000 spindles—Including reeling and bundling .. ..	..	..	..	..	..	over 72 in.	—
Excluding reeling and bundling .. ..	..	..	..	..	..	Automatic looms, below 45 in.	—
WEAVING:	..	..	..	..	..	45 in. to 72 in.	—
Loom picks per minute .. ..	..	..	..	..	165 to 220	over 72 in.	—
Production per loom .. ..	..	..	..	..	lbs. 14	Rest days per year	56
State character of cloth .. ..	..	..	..	..	Sheeting	Shifts: number of operatives; 1 shift of 10 hours, 59 per week	—
Operatives per 100 looms—Including winding .. ..	..	..	..	..	71-86	GENERAL REMARKS:	—
Excluding winding .. ..	..	..	..	..	65-22	Blow Room: 6 combined Crighton openers, in the hopper lap machine.	—
Cost:	..	..	..	..	..	6 intermediate scutchers.	—
Cost per lb. 20's, spindle point—Labour .. ..	..	..	..	..	pies	6 finisher scutchers.	—
All other charges .. ..	..	..	..	..	Rs.	3 willows.	—
Cost of weaving 100 yards (including all charges) .. ..	..	..	..	..	Rs. 5/1/0	1 six-cylinder hard waste bkr.	—
	..	..	..	..	..	2 Bondas machines.	—

	No. of Operatives		Total over	Total Wages paid per month	On 20's count Production per 10 hours per machine	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over	Female over					
Mixing ..	15	7	32	Rs. 877	3 2	5,500 lbs.	
Scutcher { 18 intermediate 19 finishers }	73	—	73	2,200	10 4	2,500 lbs.	
Cards ..	117	—	117	4,319	11 2	155 lbs.	
Drawing ..	114	—	114	3,876	0 0	1,340 lbs.	
Slubber ..	38	—	—	—	—	1,300 lbs.	
Intermediate ..	355	6	361	12,462	3 2	840 lbs.	
Roving ..	123	—	—	—	—	420 lbs.	
Rings per frame { 352 sp. warp 372 sp. weft }	304	32	1,167	33,516	13 4	162 lbs.	
Mules ..	—	—	—	—	—	—	
Reeling ..	4	79	83	2,315	10 7	96 lbs.	
Bundling and baling ..	38	—	—	363	1 11	2,700 lbs.	
Winding ..	10	405	415	10,996	4 0	1,100 lbs.	
Warping (including creelers) ..	50	—	73	3,646	11 2	21,000 yds.	
Drawing in ..	42	—	90	3,851	10 4	—	
Sizing ..	21	—	68	4,087	10 3	10 beams	
No. of looms ..	3,116	—	1,623	83,121	1 0	13 lbs. 10 ozs.	
Finishing plant ..	—	—	170	5,055	12 9	—	
Cloth lookers ..	—	—	—	—	—	—	
No. of overlookers (weaving jobbers) ..	83	—	83	11,021	4 0	—	
Baling ..	24	—	24	737	12 9	108 bales	

SPINNING:		Total value of allowances in kind, over and above wages	
Spindle speed, for 20's warp	..	..	..
Front roller speed	..	..	..
Lift	..	..	..
Production per spindle 20's warp	..	6" warp and 7" weft	..
Operatives per 1000 spindles	..	7-35	..
	..	to spindle point	..
	..	17-8	..
WEAVING:			
Loom picks per minute	..	Varies according to width but 45" looms, 192 picks	..
Production per loom	..	13 lbs. 10 ozs,	..
State character of cloth	..	Shirtings, tea cloth, drills, dhoties and fancies	..
Operatives per 100 looms	..	81-7	..
Costs:			
Cost per lb. 40's warp, spindle point	..	.. annas	4½
" " " "	..	" "	2½
" " " "	..	" "	2
Cost of reeling and bundling	..	" anna	½
Cost of weaving 100 yards	..	..	varies
Total value of allowances in kind, over and above wages			
Total spindles	..	..	109,848
Total looms, below 45 in.	..	..	1,710
45 in. to 72 in.	..	..	1,320
over 72 in.	..	..	86
Automatic looms, below 45 in.	..	..	—
45 in. to 72 in.	..	..	—
over 72 in.	..	..	—
Rest days per year	..	..	57
Hours per week	..	..	59
Shifts ; number of operatives.	One shift	..	4,501

		No. of Operatives		Total Wages		On 20's count		Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
Male over	Female over	Total over	paid per month	Rs. a.	per machine	Production per 10 hours			
Mixing	15	17	4	21	575	7	5,500 lbs.	6's to 60's warp and reeled yarn	Various.
Scutcher	49	—	—	49	1,557	3	2,600 lbs.		
Cards	69	—	—	69	2,521	1	150 lbs.		
Drawing	69	—	—	69	2,561	10	1,300 lbs.		
Slubber	—	—	—	—	—	—	1,300 lbs.		
Intermediate	189	—	—	189	6,716	1	860 lbs.	8's to 44's weft	
Rings	658	50	—	708	20,148	9	420 lbs.		
Mules	—	—	—	—	—	—	174 lbs.		
Reeling	7	122	—	129	3,746	3	100 lbs.		
Bundling and baling	16	—	—	16	714	2	3,360 lbs.		
Winding	7	165	—	172	4,671	8	1,050		
Warping	37	—	—	37	1,737	8	20,000 yds.		
Drawing-in	44	—	—	44	1,903	3	—		
Sizing	34	—	—	34	2,057	13	10 beams		
No. of looms	883	—	—	883	46,609	2	14 lbs.		
Finishing plant	89	—	—	89	2,626	1			
Cloth lookers	43	—	—	43	5,900	3			
No. of overlookers	12	—	—	12	366	9	60 bales		
Baling	—	—	—	—	—	—			
SPINNING:									
Spindle speed	..	..	..	..	..	..	8,700	Total value of allowances in kind, over and above wages	—
Front roller speed	..	..	..	..	..	..	188	Total spindles	69,376
Lift	..	..	..	..	..	..	6"	Total looms, below 45 in.	1,042
Operatives per spindle 20's warp	..	..	..	..	..	..	7.25	45 in. to 72 in.	643
Operatives per 1,000 spindles	..	..	..	..	..	..	18	over 72 in.	—
WEAVING:									
Loom picks per minute	..	..	..	..	..	..	varies according to width, 45" is 192 picks	Automatic looms, below 45 in.	—
Production per loom	..	..	..	..	..	..	14 lbs.	45 in. to 72 in.	—
State character of cloth	..	..	..	..	..	..	Drill, shirtings, tea cloth, dhuties and coloured fancies	over 72 in.	—
Operatives per 100 looms..	..	..	..	..	..	..	78	Rest days per year	57
Costs:									
Cost per lb. 40's warp, spindle point	..	..	..	..	..	..	annas	Hours per week	59
" 20's "	..	..	..	..	..	..	"	Shifts; number of operatives	1
" 10's "	..	..	..	..	..	..	anna		
Cost of reeling and bundling	..	..	..	..	..	..	4		
Cost of weaving 100 yards	..	..	..	..	..	..	varies		

	No. of Operatives	Total Wages	Production per 263 hours	Range of Counts spun	Kinds of Cloth (width, threads, warp and weft per inch)
	Male over	Female over	Total paid over		
Mixing ..	15	15	Rs.		
Scutcher ..	16	4	648	803,913	
Cards ..	42	3	1,353	653,147	
Drawing ..	58	4	2,052	—	
Shubber ..	48	—	1,937 + 1,799 for	—	
Intermediate ..	17	—	jobbers	—	
Roving ..	32	—	and doffer	—	
Rings ..	81	—	boys	609,756	
Mules ..	685	64	38,884	623,068	
Reeling ..	2	65	1,383	46,643	
Bundling and baling { 2 bundling } { 1 B. press }	2	—	63	16,150	
Winding ..	20	230	5,939	308,780	
Warping ..	31	1	1,676	289,228	
Drawing-in ..	56	1	2,206	5,890,106 ends	
Sizing ..	50	1	2,903	347,767	
No. of looms ..	970	4	52,507	621,934	
Finishing plant { 3 calenders } { 20 plaiting } { 4 stamping }	200	3	5,846	—	
Cloth lookers ..	54	—	6,457	—	
No. of overlookers ..	2	—	198	447,048	
Baling ..	3	—	—	—	
SPINNING:					
Spindle speed ..	..	..	36's, 10,207 ; 22's, 9,186 ; 44's, 10,207	..	63,248
Front roller speed ..	..	..	.. 36's, 165 ; 22's, 164 ; 44's, 154	..	925
Lift ..	..	..	.. 36's, 4-15 ; 22's, 6-18 ; 44's, 3-16	..	865
Production per spindle ..	..	..	.. 36's, 4-15 ; 22's, 6-18 ; 44's, 3-16	..	10
Operatives per 1,000 spindles ..	..	..	.. 36's, 4-15 ; 22's, 6-18 ; 44's, 3-16	..	—
WEAVING:					
Loom picks per minute ..	32"	37"	46"	72"	56
Production per loom ..	230	225	206	170	about
State character of cloth ..	..	..	..	..	..
Operatives per 100 looms ..	..	..	..	..	..
Costs :					
Cost per lb. 36's warp, spiritile point ..	..	..	..	..	..
" " 20's " " ..	..	..	..	..	..
" " 10's " " ..	..	..	..	..	..
Cost of reeling and bundling ..	..	..	..	..	..
Cost of weaving 100 yards ..	..	..	..	..	..

	No. of		— No. of Operatives —		Total Wages		Production		Range of		Kinds of cloth	
	Actual	Working	Male	Female	Total	per month	per 10 hours	Counts spun	Warp :	Sort	Width ins.	Threads in inches
Mixing: Hopper bale breaker	1	—	26	16	42	Rs. 978 11 6	—	8's, 14's, 18's, 22's, 28's and 36's		Dhoties	24 to 50	40 to 56
Blow room: Willows	4	3								Saries	26 to 43	40 to 52
Soft waste opener	1	1								Chudders	44 to 60	40 to 44
Hard waste opener	1	1								Nainsook	34 to 50	44 to 52
Thread extractors	6	6	76	1	77	2,375 11 3	—			Long cloth	28 to 42	44 to 56
Openers with P. beaters	11	84								Sheeting	29 to 45	44 to 56
Scutchers	45	34								Cabot cloth	21 to 45	44
Cards	265	208	69	4	73	2,340 13 3	—			Domestics	36 to 60	52
Drawing	28	224	71	—	71	2,677 2 6	—			Dosuti	36 to 56	72
Slubbing	28	23	23	—	23	863 6 3	—			Khadi	24 to 60	28 to 36
Intermediate	59	454	41	—	41	1,472 8 0	—			Shawls	52	52
Roving	146	1224	118	—	118	3,902 5 9	—	5's, 10's, 12's, 14's, 16's, 21's, 30's, 36's, 44's, 50's, 60's and 70's.		Check loongi	30 to 48	36 to 44
Frame doffers, jobbers, oilers and others	—	—	122	4	126	3,929 14 9	—			Check sari	40 to 44	36
Ring Frames	273	270	1,061	13	1,074	33,164 12 3	25,988 lbs.			Grey Fancy:		
Reeling	98	74	9	172	181	4,071 9 0	—			Check	27	56
Bundling and baling	7 + 1	4 + 1	20	—	20	565 15 9	—			St. twill	27	56
Winding: Grey	16	14								Coating	27	48
Drum	6	5								Bed tick	47	36
Cheese	2	2								Dyed cloth:		
Pirn	1	1								Long cloth	26 to 32	44 to 56
Silk	2	1								Tasure	27	40
Universal	20	8								Twill	30	56
Doubler	1	1								Shawl	47	50
Warping	36	32	40	—	40	1,839 15 6	—			Silk sari	44	68
Sizing	16	12	36	1	37	1,823 7 9	—			Bleached:		
Drawing-in	—	—	97	—	97	3,338 12 3	—			Towels	28	36
Looms	—	—	1,312	10	1,322	62,692 7 6	22,613 lbs.			Chudders	56	52
Finishing plant: Calenders	2,433	2,398								Mulls	45 to 60	60
Folding machines	15	15								Long cloth	36	72
Stamping	3	3								Twill	30	68
Cloth lookers	—	—	6	—	6	4,030 10 6	—			Dhoties	44 to 54	64 to 72
Overlookers	—	—	3	—	3	226 11 0	—			Dobby shirting	27	60 to 64
Baling	3	3	5	—	5	117 9 9	—			St. twill	27	48 to 56
						195 12 0	—			Soosi	25	52
										Drill	28	40
										Check	27	44
										Silk shirting	31	48
												56 to 60
SPINNING:												
Spindle speed	..	..	..	..	..	..	6,378 to 9,500					
Front roller speed	..	..	..	..	..	..	105 to 204					
Lift: Twist	..	..	..	..	..	..	5"					
Weft	..	..	..	..	..	..	5 1/2"					
Production per spindle: 36's warp												
28's	..	..	..	..	..	..	ozs. 2.944					79,300
22's	..	..	..	..	..	..	3.844					818
..	..	..	..	..	..	..	5.668					1,615
Operatives per 1000 spindles	..	..	..	..	..	..	20.95					
WEAVING:												
Loom picks per minute	..	..	..	..	..	..	182					
Production per loom for 10 hours												
State character of cloth:												
Grey cloth—Dhoties, chudders, nainsook, mulls, long cloth, sheetings, cabots, domestics, dosuti, khadi, shawls, check loongies, saries, striped twill, checks, coatings and bed ticks.												
Dyed cloth—Shawls, tasure, long cloth, twills, drill and artificial silk saries.												
Bleached cloth—Towels, napkins, handkerchiefs, chudders, dosuti, khadi, curtain cloth, mulls, long cloth, dhoties, twill, drill, jean, soosi, dobby shirtings, doria, checks, artificial silk dobby shirting and artificial silk jacquard saries.												
Operatives per 100 looms	..	..	..	..	..	..	78.89					
Costs:												
Cost per lb. 36's warp, spindle point	..	..	..	..	..	..	pies					
" 22's	..	..	..	..	..	..	30.5					
" 18's	..	..	..	..	..	..	16					
Cost for reeling and bundling	36's, 9.58; 22's, 8.05; 8's, 6.05					
Cost of weaving in yards	pies					

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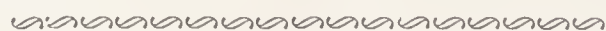
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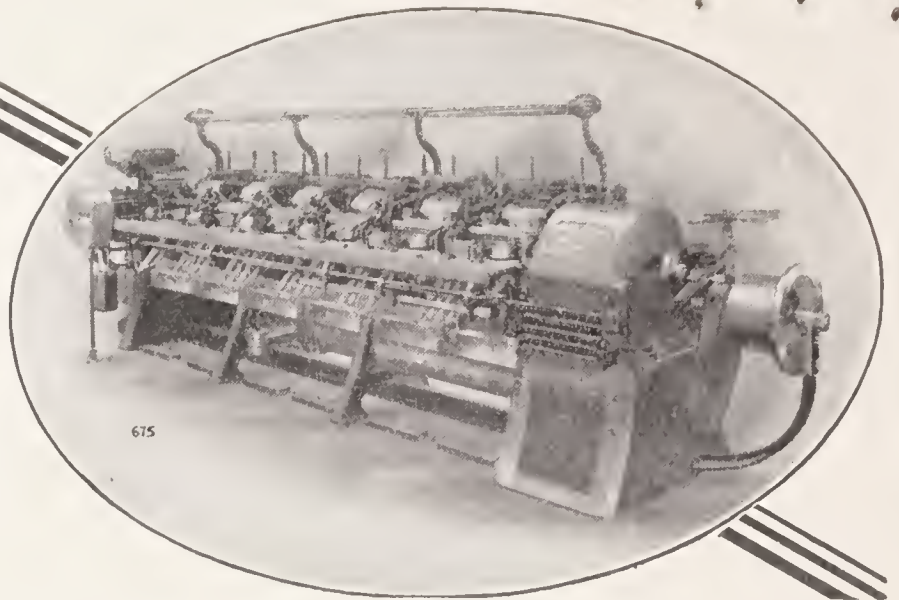
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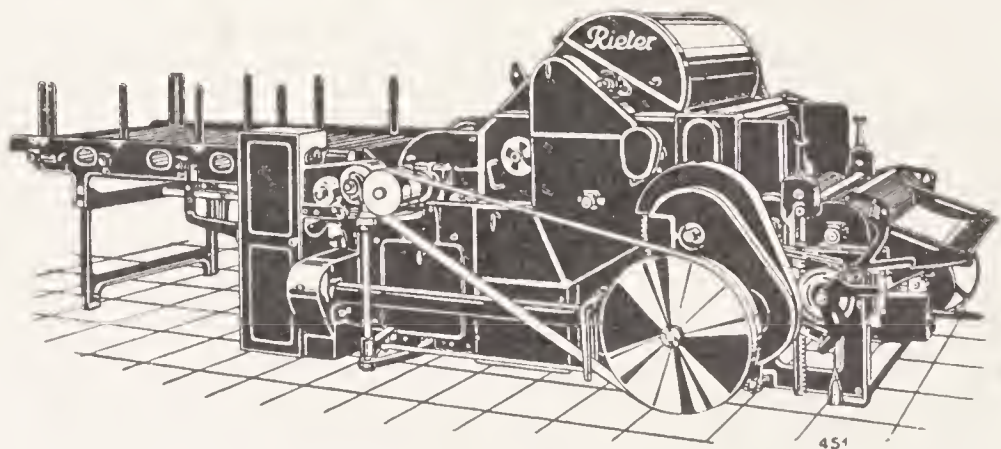
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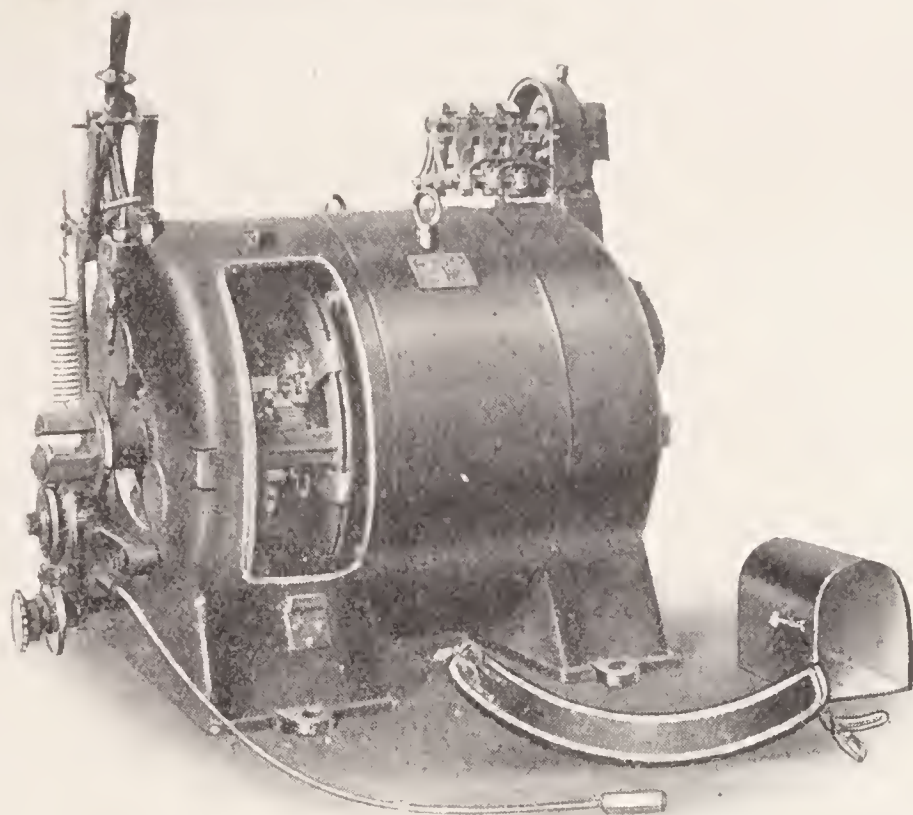


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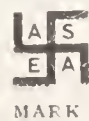
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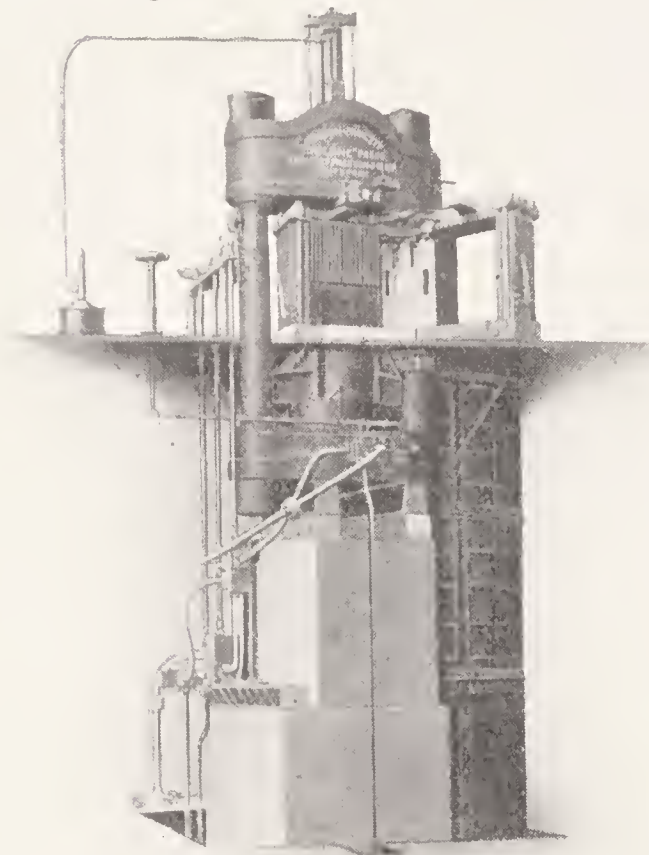
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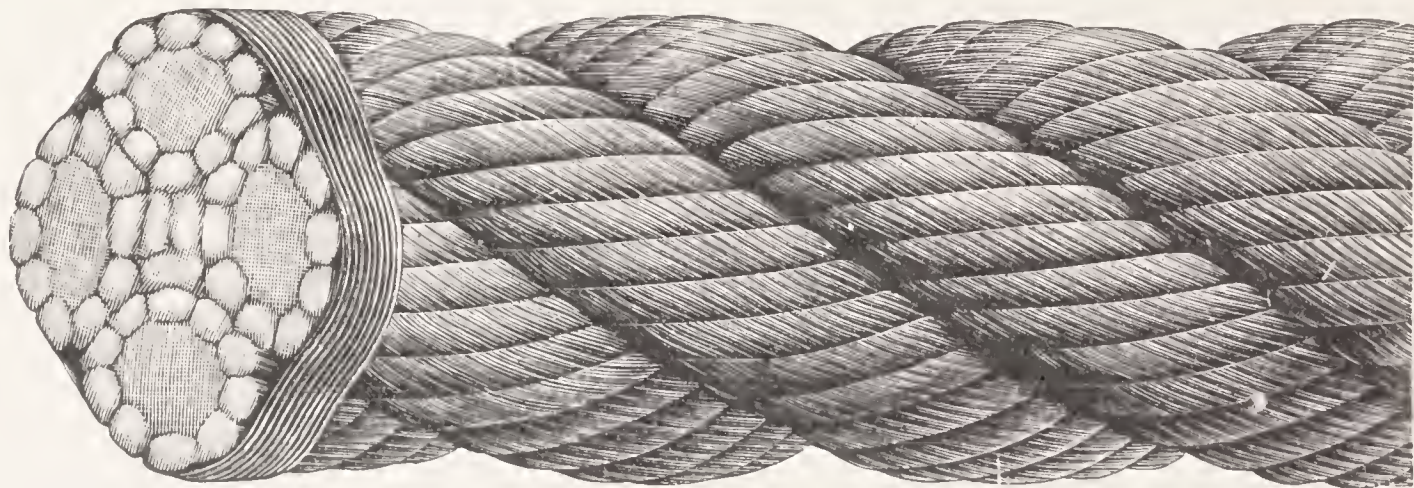
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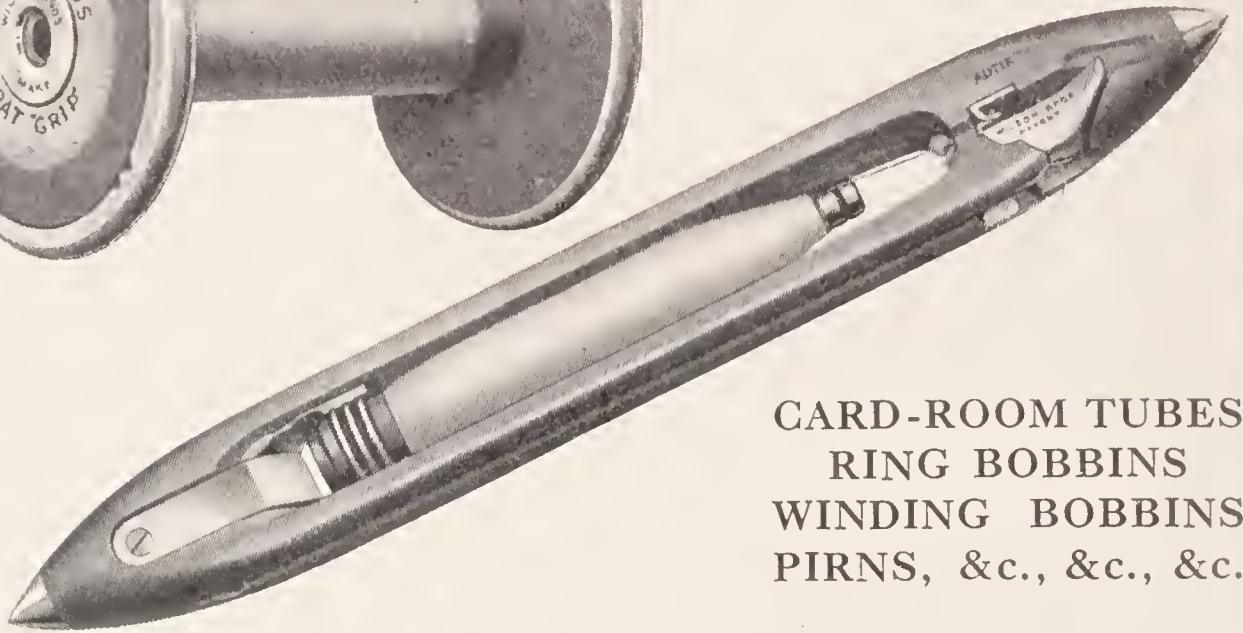
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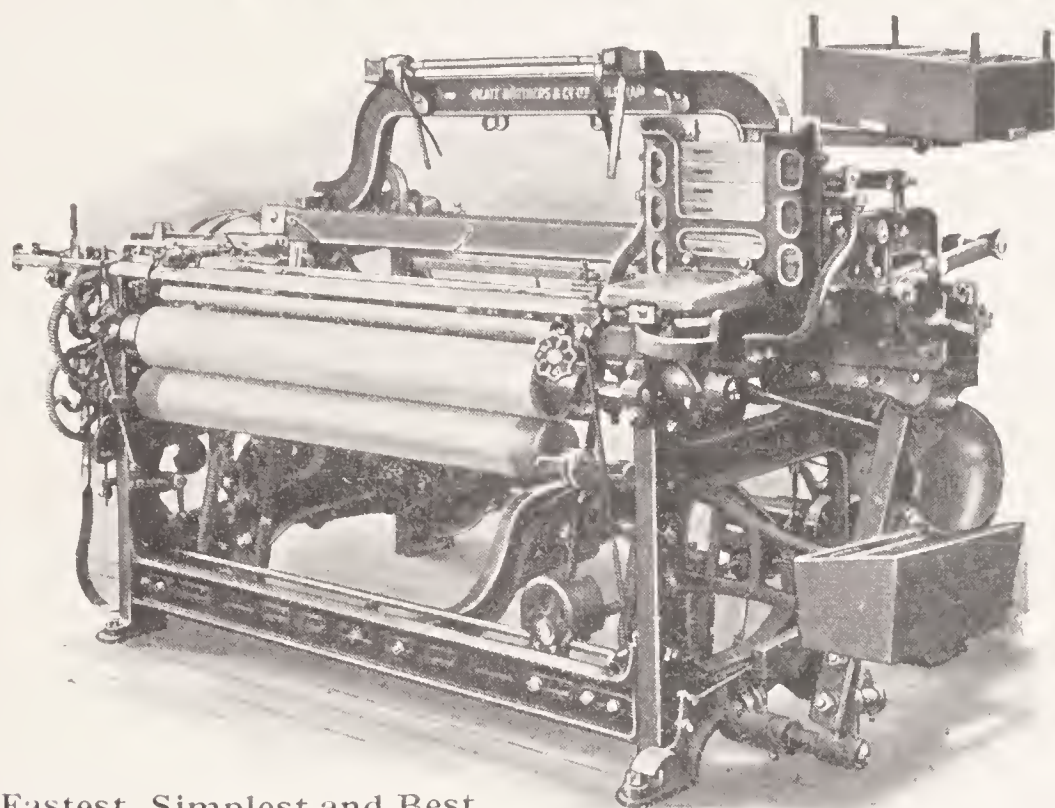
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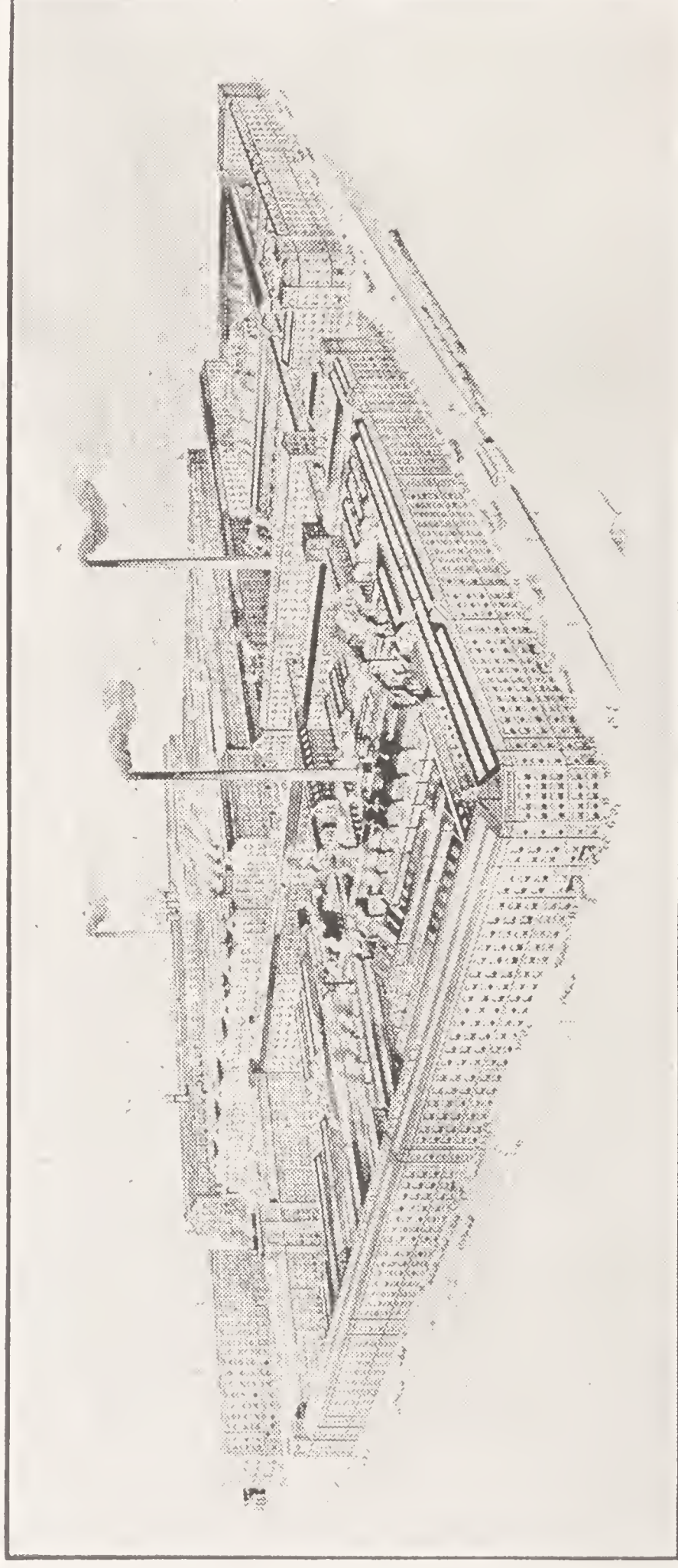
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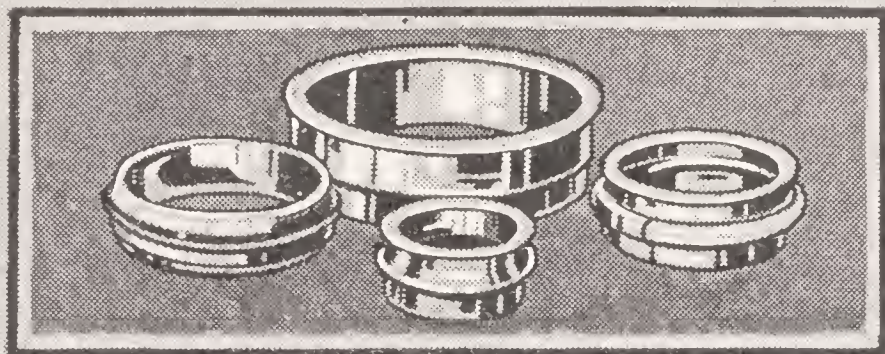
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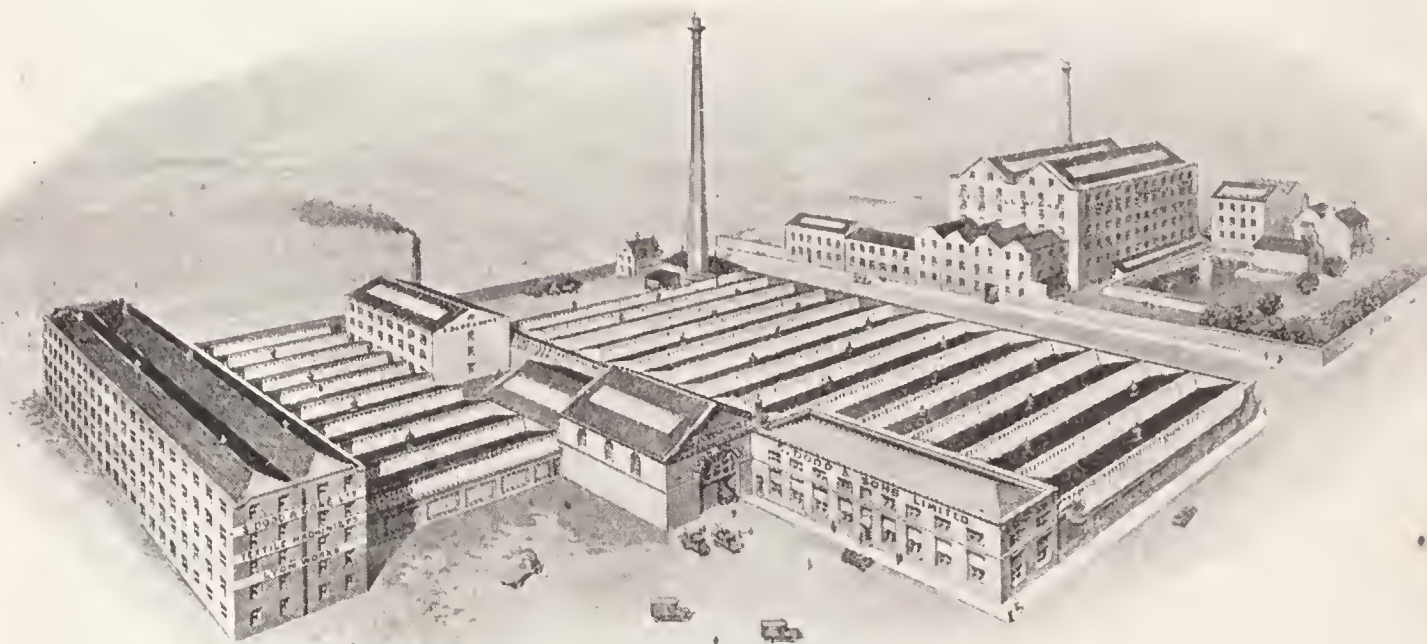
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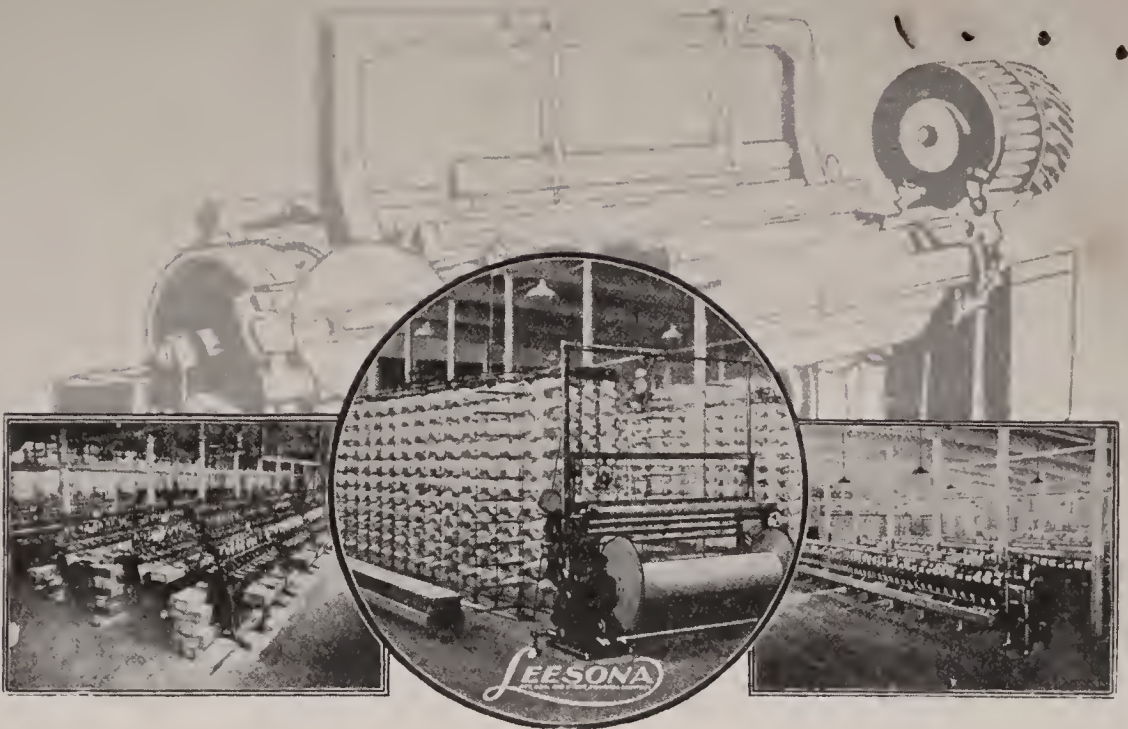
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